MODERN EQUIPMENT and PROCESS NUMBER
OCTOBER, 1935

COTTON

Serving the
TEXTILE INDUSTRIES

★ *Modernization Marches On!* ★

Fairfax Mill Division WEST POINT MFG. CO. Installs New Boilers

Martex TURKISH REG. U.S. PAT. OFF. TOWELS

FAIRFAX Mill Division of the West Point Manufacturing Co., West Point, Ga., is famed for the quality of its MARTEX towels, and the modern style trends they unfailingly reflect. So it is natural to see this mill in the vanguard of modernization.

Robert and Company are proud to have been selected to handle the just-completed installation of two 400 H.P. boilers, developing 250 pounds pressure, with single retort stokers and full automatic combustion control.

Whether your problem is smaller or larger, we solicit your inquiry.

ROBERT AND COMPANY
ATLANTA INCORPORATED GEORGIA
Architects and Engineers

"... with the greatest of ease"

OH, YEAH?

Taking the song about the man on the flying trapeze at its face value, the uninitiated might assume that the trapeze performer acquires his art with comparatively little effort.

"Oh, yeah?" is the challenge of the well informed, for the fact is that trapeze artists who would acquire any great degree of skill have to begin their training in early youth.

In this respect the man on the flying trapeze and Franklin Process Custom Yarn Dyeing have much in common. Franklin Process, in its four plants, using Franklin Process Package Dyeing Machines exclusively, dyes a great variety of yarns promptly and efficiently with all types of soluble dyestuffs in larger annual volume than any other yarn dyeing service in the country. This fact may lead the uninitiated to assume that a successful yarn dyeing service is little more than a matter of installing package dyeing machines.

Custom Yarn Dyeing
Natural Yarns Colored Yarns
Glazed Yarns
Dyeing and Processing Machines

When you pay for colors of KNOWN fastness, advertise the fact. Use the Franklin Process Fast Color Label. Ask us about it.

Reverting to vernacular, our answer is "Oh, yeah?" It has taken us a quarter century to bring Franklin Process Custom Yarn Dyeing to its present stage of comparative perfection, and we have no fear that our achievement will be duplicated overnight. Our course has been far from smooth sailing.

Franklin Process machines have played a sterling part in bringing us leadership, but only a part. Human knowledge, ingenuity, persistency and above all EXPERIENCE have been equally important contributing factors.

Real achievement is always born of experience. Therefore, if you want superior as well as economical yarn dyeing, order from —

FRANKLIN PROCESS

ESTABLISHED 1910

Pioneers in Package Dyeing

PROVIDENCE • PHILADELPHIA • GREENVILLE • CHATTANOOGA • N. Y. REPRESENTATIVE, 40 WORTH ST.

COTTON is published monthly by W. R. C. Smith Publishing Co., Dalton and Atlanta, Ga. Subscription Rates, United States and Possessions, $1.00 for one year; $2.00 for three years; Canada, $1.50 per year; Foreign Countries, $2.00 per year. Entered as second-class matter at the postoffice, Dalton, Ga., under the Act of March 3, 1879.

If You Can't Buy New Looms of Our X Family

Which Give you 20% More Product and Are Built for Efficient and Economical Weaving—for a Minimum of Attention from Weavers and Fixers

You Can Keep Your Old Looms Fit And Thereby Increase Production

By Buying and Using Improved Draper-made Repair Parts—Parts That Fit—Parts That Have Been Redesigned for Strength and Efficiency—Parts Made to Give Better and Longer Service

Our Free Loom Clinic Shows the Way

Our Recently Established Loom Clinic Is Being Warmly Praised by the Mills That Have Tried It as the Best Means Ever Devised for Making Old Looms as Good as When New

It Shows You the Real Condition of Your Looms—How They May Be Restored to Full Efficiency—And in Making Repairs Our Man Can Tell You of the Improved Parts That Will Make Your Looms Better Than When New—And These Parts Take the Place of Regular Repairs—And Will Cut Down Future Repair Bills

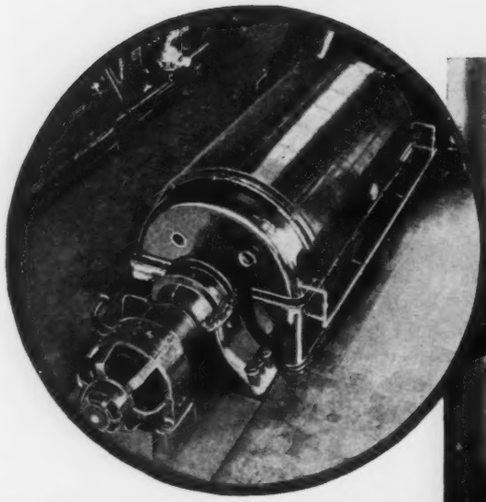
Not the Time to Do Nothing

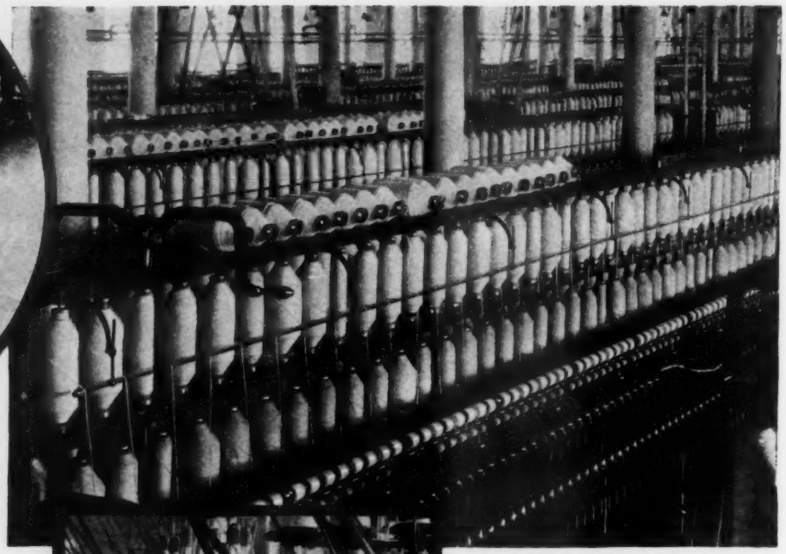
Our Clinic Is Emergency Service—to Help in a Time of Need—You Can't Afford to Pass It Up—It Is Yours for the Asking WITHOUT CHARGE

DRAPER CORPORATION

Atlanta Georgia Hopedale Massachusetts Spartanburg S C

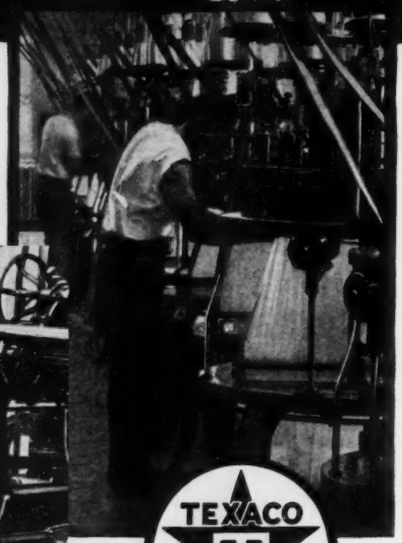
When you talk about PROFITS *think about* OIL!





ENGINEER'S REPORT 1748. Power costs have been reduced more than nine per cent. Texaco *tested* Lubricants throughout the mill are making substantial savings that annually run into a very satisfying figure. Maintenance costs, too, have been noticeably reduced.

ENGINEER'S REPORT 325. Texaco Lubricants in the spinning room have practically eliminated troubles due to spindle wabble and staining. Spoilage is noticeably reduced. Power consumption is lower. These economies due to Texaco lubrication have proved very gratifying to the management.



ENGINEER'S REPORT 647
Production machines are geared up to faster operating schedules —and more efficient lubricants and lubrication methods have been a contributing factor. A large measure of credit is given to Texaco Lubricants for this improvement.

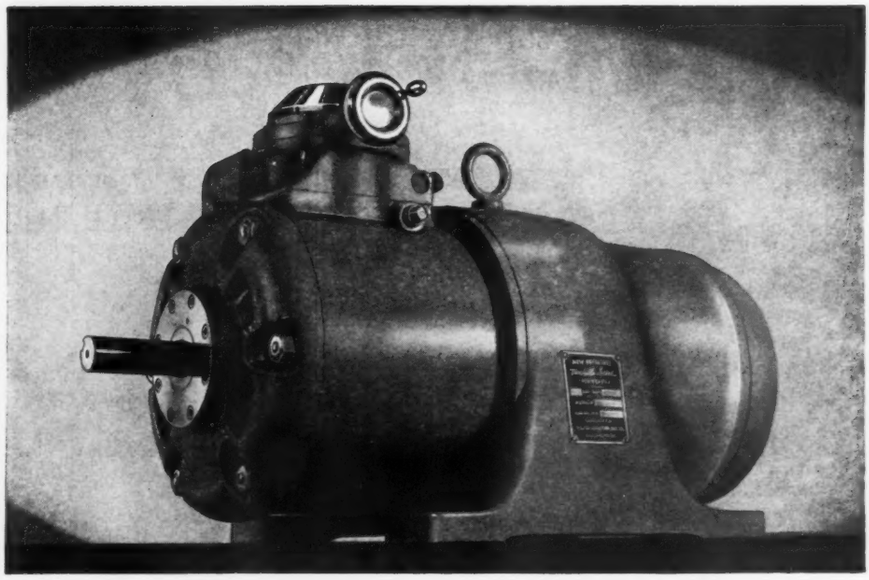
ENGINEER'S REPORT 1067
The owner of this mill expressed his appreciation for the courteous service Texaco men are giving his mill superintendent. Promptness in handling engineering calls and eagerness to help improve conditions are decidedly helpful in cutting operating costs.

THE TEXAS COMPANY
135 E. 42nd St., New York City
Nation-wide distribution facilities assure prompt delivery

TEXACO T REG. T. M.

TEXACO *tested* LUBRICANTS

REFINERY TESTED FOR UNIFORMITY • • • SERVICE TESTED FOR ECONOMY



Thousands of Speeds
at the touch of a finger

Speed infinitely adjustable throughout entire range. Ratio, 6 to 1. Transmission and motor built as one compact, highly efficient unit.

Hardened steel rollers transmitting drive from constant speed input race to variable speed output race operate under torque - controlled contact pressure. Rollers inclined by operation of speed control roll themselves into required ratio position. Only finger touch required on control wheel.

RACES AND ROLLERS

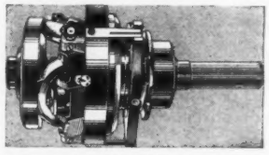
INCLINED ROLLER

Speeds may be pre-selected or adjusted while running.

With 1,750 r.p.m. motor, *any* speed from 600 to 3,600 r.p.m. immediately available. Built with 1,200 or 900 r.p.m. motors for correspondingly lower speeds.

Always starts from and stops in low-speed, high-torque position. . . . Avoids overloading motor.

Positive drive is assured under all conditions of loading, including rapid reversing or extreme overload.



RACE AND ROLLER ASSEMBLY

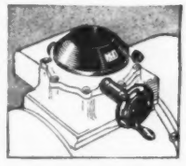
Unit is torque conscious. Automatic pressure device utilizes the imposed torque load to generate the required pressure between rollers and races. Pressure is always proportional to the input or output torque load—never exceeds requirements.

TORQUE FLANGE

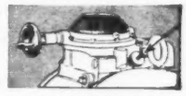
Revolving parts in positive rolling contact are inherently in balance, assuring exceptional quietness and freedom from vibration at all speeds.

No adjustments of any kind are ever required. New Departure Ball Bearings used throughout.

Outstanding ease of control . . . Speed changes obtained instantly either by handwheel on unit or remote control to suit any type of installation. Full automatic cam-operated control for speed changes occuring in variously timed cycles.



SPEED CONTROL



TIME CONTROL

Time required for unit to shift up or down to any desired speed is readily adjustable. Minimum time, low to high or vice versa, three seconds.

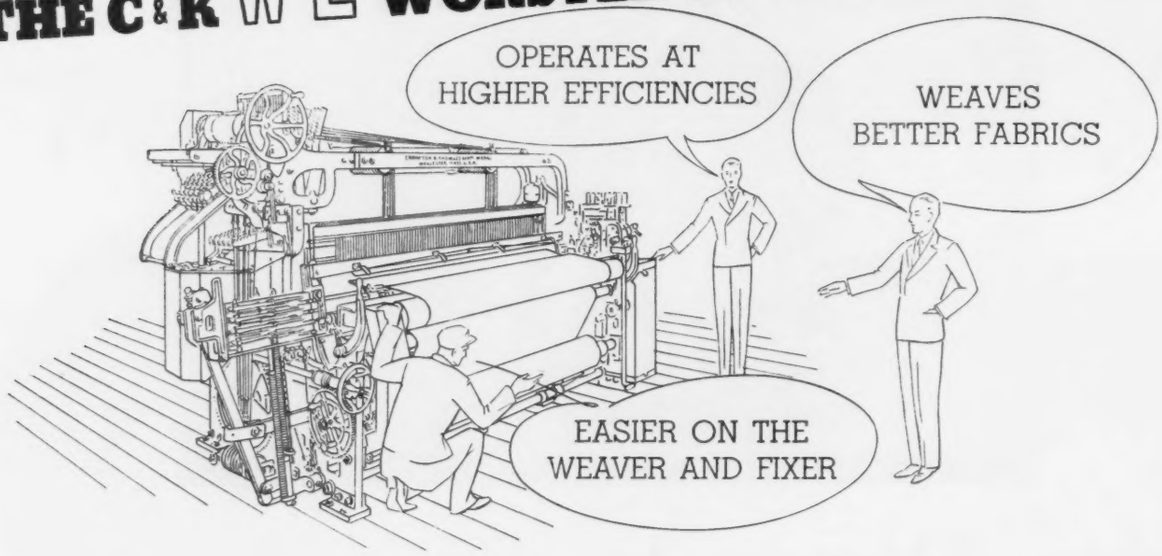
Unit adapted to mounting in any position — vertical, horizontal, sidewall or ceiling.

Send for catalog PC, giving detailed description.

The New Departure Manufacturing Company, Bristol, Connecticut.

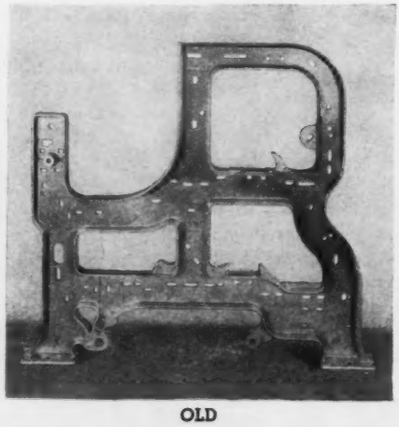
NEW DEPARTURE
Variable Speed
TRANSITORQ

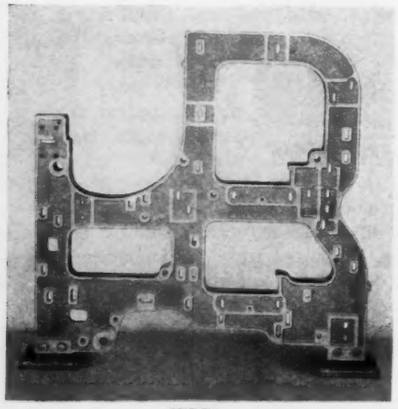
THE C & K *W-2 WORSTED & WOOLEN LOOM



The C & K W-2 Worsted and Woolen Loom is outstanding because of: (1) **Simplicity of design,** with all major adjustments easier and more accessible; (2) **Speed**—10 to 20 picks per minute greater on same fabrics; (3) **Efficiency**—4 to 8 looms per weaver with higher individual loom efficiency; (4) **Economy**—Superior design eliminating undue wear and breakage; (5) **Convenience**—Height of loom reduced—labor saving devices for both weaver and fixer; (6) **Flexibility**—Fabrics ranging from 4 to 47 ounces being woven successfully; (7) **Loom Capacity**—52" to 92" between swords, 20 harness, 4 x 1 automatic, 2 x 1 automatic, 4 x 4 non-auto. Bobbins 8" x 1⅛" or 8¾" x 1½". Full beam 24" dia. Full cloth roll 16" dia.

Note superior design of new loom-side as compared to the old. Metal is distributed to provide strength and rigidity where most needed. Modern grinding methods produce a frame that is straight and true, and machined surfaces for all attaching parts.


OLD


NEW

*A member of the C & K Family of Precision Looms . . . A loom for every woven fabric.

CROMPTON & KNOWLES LOOM WORKS

Allentown Philadelphia **WORCESTER, MASSACHUSETTS** Southern Office, Charlotte, N. C

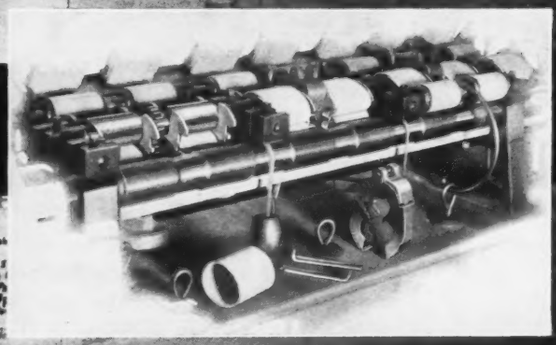
CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.

WHITIN

THE WHITIN-CASABLANCAS LONG DRAFT SYSTEM
embodies the principles pioneered and developed by Casablancas and adopted by the World's Textile Mills.

For Slubbers • Intermediates • Fine Roving

- Fewer Roving Spindles
- Reduced Card Room Costs
- More Even Roving



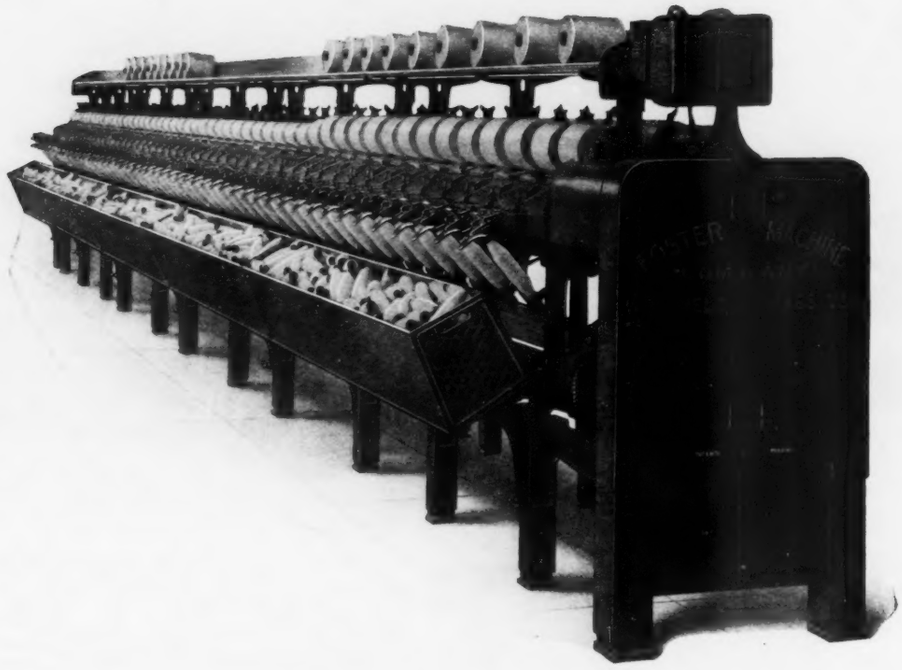
For Spinning Frames

Evener and Stronger Yarns • Fewer Ends Down per Thousand Spindles • Cleaned without Losing Production

IN UNIVERSAL USE

GOOD PACKAGE DYEING

Starts with the Winding



"Unless" the winding room "delivers to the dye house packages uniformly wound, neither too hard nor too soft, with special emphasis on the uniformity of each batch with regard to firmness, no dyer can turn out acceptable work, since one soft package on the spindle of a machine will usually cause a variation in shade in every package on the spindle."

Thus write Mr. E. P. Davidson of the Dyestuffs Division, Dupont Company in the July 1, 1935, issue of "American Dyestuff Reporter."

The Foster Model 102 has special parts and adjustments to produce cotton yarn packages most suitable for the particular package dyeing system in use. Only with these parts and adjustments can the most satisfactory results be obtained. Providing the correct winding angle and correct and uniform density, they assure uniform penetration of the dye liquor.

The machine also has other important economy and quality features which will be explained on request.

FOSTER MACHINE CO., WESTFIELD, MASS.

FRED P. BROOKS, REPRESENTATIVE, P. O. BOX 941, ATLANTA, GEORGIA

FOSTER MODEL 102

FOR WINDING DYEING PACKAGES

Proximity Manufacturing Company, Greensboro, N. C.

J. E. Sirrine & Company, Engineers Greenville, S. C.

Maple Is the Best Floor Surface to Meet All Conditions Encountered

WHETHER you're building a new mill or remodeling the old, the service records of Northern Hard Maple will *prove* what flooring is best for you to use. For in countless mills, where flooring must fill many difficult requirements, Maple floors laid many years ago are still serving their owners with complete satisfaction.

Northern Hard Maple is tough-fibred, tight-grained, resistant to abrasion, lastingly smooth. Will not sliver, splinter or develop ridges—even when subjected to the wear of heavy, rolling trucks with steel casters. Hard Maple actually outwears stone!

It is warm, dry, resilient, comfortable beneath the feet. Reduces fatigue. Simplifies plant alterations—creates no dust injurious to the bearing surfaces of machinery.

Hard Maple is remarkably easy to keep clean and free from lint—requires only brushing. Whether you floor with blocks or strips—with or without pattern—over wood or concrete sub-floors, or over your present floor—Northern Hard Maple will provide a floor that endures and satisfies.

> "Maple flooring is a standard specification with us for textile manufacturing building, for the very good reason that it is the best floor surface that we know of to meet all of the conditions encountered."
>
> J. E. SIRRINE & COMPANY.

Write for grading rules and complete specifications for laying and finishing MFMA Maple Floors.

New, penetrating heavy-duty finishes

Seal the surface. Keep out dirt. Resist soil stains. Eliminate scrubbing. Non-slippery. Will not mar, scratch or flake off. Also preservative types which resist the effects of dampness.

★

YOUR LOCAL LUMBER DEALER WILL SUPPLY YOU

with trade-marked **MFMA** Maple Flooring—product of the following manufacturers licensed to use the Association trade-mark **MFMA:**

Beck, August C. Company Milwaukee, Wis.
Brown Dimension Company, Manistique, Mich.
Bruce, E. L. Company Memphis Tenn.
(Mill at Reed City, Mich.)
Cobbs & Mitchell, Inc. Cadillac, Mich.
Connor Lumber & Land Company, Laona, Wis.
(Sales Office, Marshfield, Wis.)
Cummer-Diggins Company Cadillac, Mich.
Farrin Lumber Co., M. B. Cincinnati, Ohio
Holt Hardwood Company Oconto, Wis.
Kerry & Hanson Flooring Co., Grayling Mich.
Kneeland-Bigelow Company Bay City, Mich.
North Branch Flooring Co. Chicago, Ill.
Northwestern Cooperage & Lumber Co. Gladstone, Mich.
Oval Wood Dish Corp. Tupper Lake, N. Y.
Robbins Flooring Company, Rhinelander, Wis.
Sawyer Goodman Company Marinette Wis.
Stephenson Company, I. Wells, Mich.
West Virginia Pulp & Paper Co., Cass, W. Va.
Wells, J. W., Lumber Co. Menominee, Mich.
Wisconsin Land & Lbr. Co., Hermansville, Mich.
Yawkey-Bissell Lumber Co., White Lake, Wis.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
1794 McCormick Bldg., Chicago, Illinois

See our advertisement Sec., 15/50 in SWEET'S. Let our service and research department assist you with your flooring problems. Write us.

Floor *with* Maple

The letters **MFMA** on Maple, Beech or Birch Flooring signify that the flooring is standardized and guaranteed by the Maple Flooring Manufacturers Association, whose members must attain and maintain the highest standards of manufacture and adhere to manufacturing and grading rules which economically conserve these remarkable woods.
This trade-mark is for your protection. Look for it on the flooring you use. . . . **MFMA**

TRADE MARK
TUFFER
REG. U.S. PAT. OFF.
CARD CLOTHING

THE SYMBOL OF SERVICE AND QUALITY

The cotton and woolen mills who use Tuffer Card Clothing have at their command superior quality which sixty-nine years of scientific knowledge and manufacturing skill has produced.

Correctly designed, made of best materials, manufactured by processes handed down through generations, Tuffer Card Clothing gives long, continuous service and uniform results.

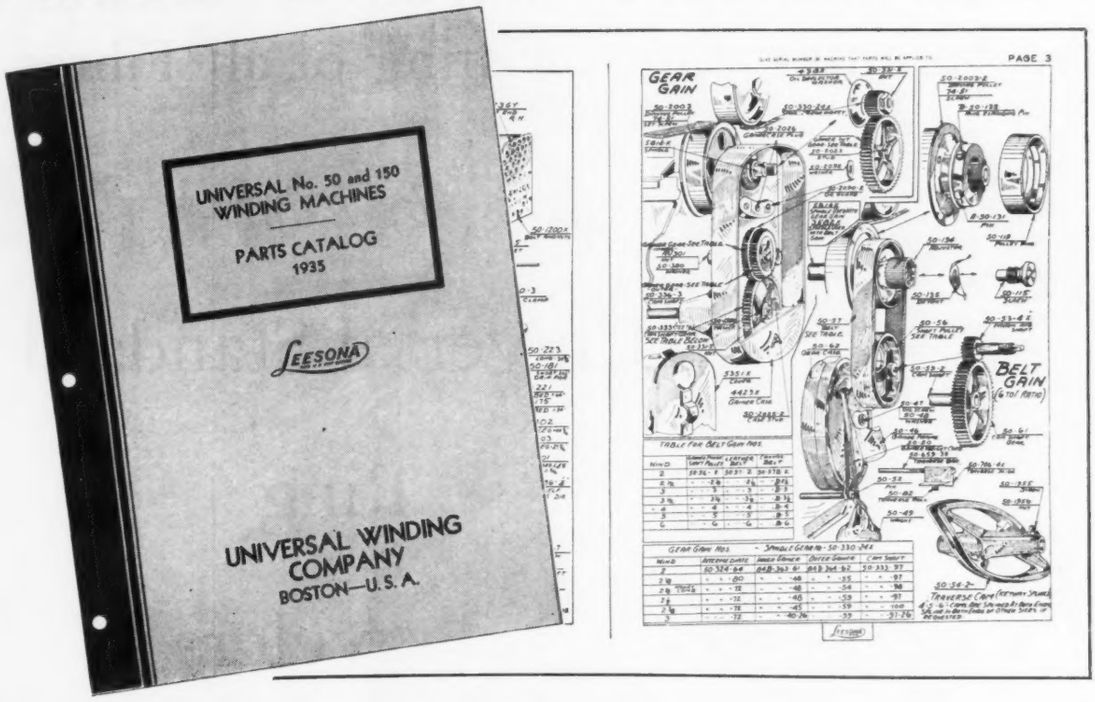
Tuffer Card Clothing has still another significance for boss carders. A thorough and comprehensive inspection system examines every point before the finished product leaves the factory. While every material used in making Tuffer Card Clothing is of unquestionable quality, the human element is most important. No other factor overshadows craftsmanship in its contribution to Tuffer quality. Thus the high standards of Tuffer quality are maintained.

If you have never used Tuffer Card Clothing in your card room, a trial order will convince you why so many mills prefer Tuffer quality and service. Write the nearest Howard Bros. office for quick and unfailing service.

HOWARD BROS. MFG. CO.
HOME OFFICE AND FACTORY: **WORCESTER, MASS.**
So. Plant: 244 Forsythe St., Atlanta, **Branch Offices:** Philadelphia, Dallas, Washington

Products: Fillets for Feed Rolls, Lickerins, Tumblers, Strippers, Workers, Doffers Fancies, and Cylinders, Doffer Rings, Napper Clothing, Strickles, Emery Fillets, Burnisher Fillets, Top Flats Recovered and extra sets loaned, Lickerins and Garnett Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant. Midgley Patented Hand Stripping Cards and Inserted Eye and Regular Wire Heddles

THIS NEW CATALOG



ON THE UNIVERSAL 50 AND 150

WINDING MACHINES WITH L DRIVE AND INCLUDING MANY OF THE LATEST IMPROVEMENTS

WILL HELP YOU IN ORDERING PARTS

Write for it

This is a new catalog on the *standard* 50 and 150 machines, including L-Drive, anti-wear tension, Quixset slub catcher, gear gain, emulsion attachment, skein supply, measuring device and paraffin tension.

If information on special attachments is required (such as those listed in the coupon), please mention by name, and separate information on the attachments will be sent with the Parts Catalog.

UNIVERSAL WINDING COMPANY

BOSTON

PROVIDENCE · NEW YORK · SPRINGFIELD · UTICA · CHARLOTTE · ATLANTA · PHILADELPHIA

Please request this catalog on your firm's letterhead — address Dept. B, Boston — or, if more convenient,

USE THIS COUPON

Universal Winding Company
Dept. B. Boston, Massachusetts

Please send me your new Parts Catalog on the Universal 50 and 150 Winding Machines. Also information on the attachments checked.

Pineapple Cone . . . . . ☐ Multiple End Winding . . ☐
Bobbin Spool Attachment . . ☐ Taper End Tube . . . . . ☐

Name_____

Mill_____

Address_____

1787

Most Satisfactory Results are Obtained in the Spinning and Twisting of all Fibres

by using

Universal Standard Ring Travelers

MANY years of experience and experimental investigation by one of the largest and oldest ring traveler manufacturers have perfected ring travelers of highest quality and uniformity to ensure satisfaction for your particular requirements. If you are spinning or twisting high grade quality yarns, requiring ring travelers of quality and uniformity, we will welcome the opportunity of submitting samples for your approval.

WHEREVER millmen gather to exchange ideas and experience, there is a definitely expressed satisfaction and assurance covering the advantages and accomplishments advanced by the—BOWEN PATENTED BEVEL EDGE,—the BOWEN PATENTED VERTICAL OFFSET and the PATENTED NE-BOW VERTICAL TRAVELERS. These offer better spun and twisted yarns.

Manufactured exclusively by the—

U. S. RING TRAVELER COMPANY

PROVIDENCE, R. I. **GREENVILLE, S. C.**

AMOS M. BOWEN

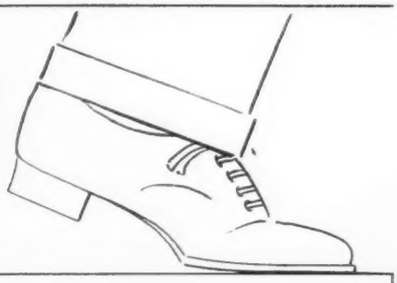
President and Treasurer

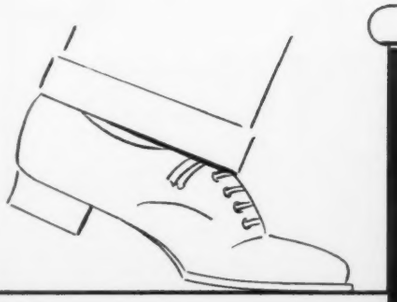
SOUTHERN SALES REPRESENTATIVES

Wm. P. Vaughan, P. O. Box 792, Greenville, S. C.
Oliver B. Land, P. O. Box 158, Athens, Georgia.
Torrence L. Maynard, P. O. Box 456, Belmont, N. C.

"A TRAVELER FOR EVERY FIBRE"

Stepping Up with ABBOTT WINDERS » »





SPOOLERS

Gross bobbins tied in per hour

350

Operators walk . . .

Distribute bobbins .

Collect spools . .

Worth what the junk man allows

ABBOTT *Traveling* SPINDLE WINDER

Gross bobbins tied in per hour

660

Operator sits or stands .

Distribution and collection of work by machine itself . . . . . .

Automatic starting of packages . . . . .

Automatic sizing of packages . . . . . .

Selection and automatic doffing of empty bobbins . . . . . .

Price competitive with ordinary winders

ABBOTT *Automatic* TIE IN HEAD

Gross bobbins tied in per hour

1200

HAS ALL THE TRAVELING SPINDLE FEATURES +

Automatic End Finding of package . . . . .

Mechanical tying of knots . . . . . .

Control of slack while tying . . . . . .

Simple reliable mechanism . . . . . .

Low up-keep cost . .

No reaching . . . . .

No walking . . . .

No pushing of trucks .

Economies not exceeded by any system regardless of price . . . . . .

Allow us to figure for your conditions.

ABBOTT MACHINE CO., WILTON, N. H.

The New

RIHCO

HUMIDIFIER CONTROL

SIMPLE – INEXPENSIVE – ACCURATE

Inclosed in a locked steel cabinet to prevent tampering.
At the left a thermometer and hygrometer show room temperature and relative humidity.
At thee right is the humidistat, which may be instantly set for any desired humidity.
An electric fan constantly circulates air over the instruments.
The humidistat can be replaced like a cartridge fuse when it needs calibration.

Manufactured by

R. I. HUMIDIFIER & VENTILATING CO.

BOSTON, MASS.

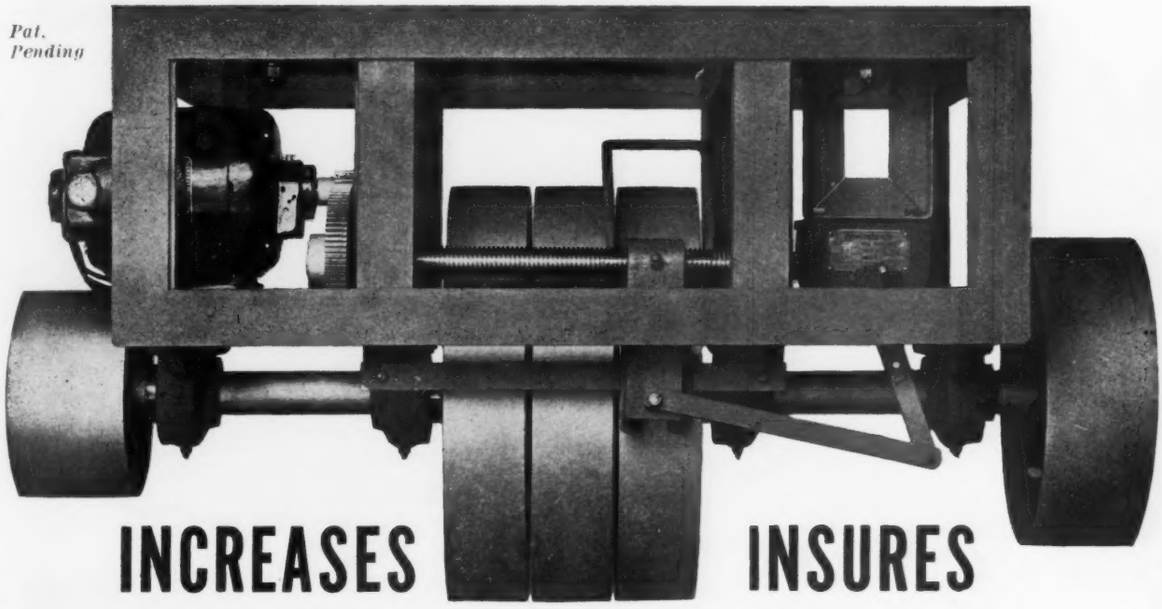
EXCLUSIVE SOUTHERN AGENTS

ALDRICH MACHINE WORKS

GREENWOOD, S. C.

"CAMCO" *Differential Drive*

Pat. Pending



INCREASES Operating Efficiency of Cotton Cleaning Machines

Stop-Start Electric Cotton Feed Controls reduce the efficiency of Cotton Cleaning Machines. When such Controls stop the flow of cotton from bale openers, the Cleaning Machines run idle and handle no cotton. When the flow is started, the Cleaning Machines handle too much cotton. Under such conditions, maximum cleaning efficiency is impossible.

The "CAMCO" Differential Drive slows down the bale openers and reduces the rate at which cotton is delivered when the picker hoppers are filled, and increases the speed of the bale openers and the rate at which cotton is delivered as the picker hoppers need cotton.

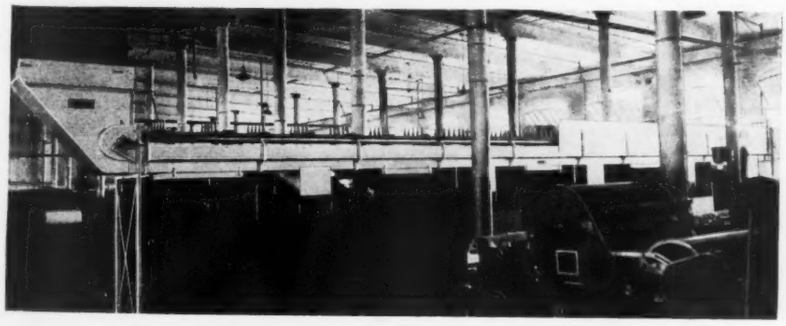
The Cleaning Machines, therefore, do more efficient cleaning, as there is always some cotton passing through them, and the peak load is less than it is when they run idle every time a Stop-Start Control operates.

INSURES Production of Cleaner and More Even Picker Laps

Another advantage of the "CAMCO" Differential Drive is that it prevents choke-ups in cleaning machines due to failure of Cage Condensers to thread and deliver cotton properly when the flow of cotton is started after they have delivered all of the cotton passing through the Cleaning Machines at the moment Stop-Start Controls operate to stop the flow of cotton from the bale openers. When Cage Condensers fail to thread and deliver, cotton piles up in the Cleaning Machine and is damaged.

Where the "CAMCO" Differential Drive is used, there is always some cotton on the revolving Cage Condenser Screens and between the delivery rolls, thus insuring positive delivery of cotton as the rate of flow is increased.

A post card will bring you full details or a Centrif-Air engineer will gladly call and explain without any obligation whatever.



"CAMCO"

AUTOMATIC NON-OVERFLOW MIXING AND CLEANING DISTRIBUTOR WITH "G. E." ELECTRIC COTTON CONTROL

(Patented)

Mixes and blends cotton while conveying it.
Takes out more leaf and fly from the cotton.
Prevents spilling of cotton on floor.
Regulates flow of cotton from cleaning machines.
Holds cotton at any desired level in the picker hoppers.
Requires no attention while operating.
Costs less for power and upkeep.
Fitted with fireproof cotton delivery chutes in place of bags.

The CENTRIF-AIR MACHINE CO., *Inc.*

858 Ashby Street, *Engineers and Manufacturers* **ATLANTA, GA.**

ANNOUNCING

The AMCO No. 4 ATOMIZER

the FIRST *automatically self-cleaning* ATOMIZER

The new Amco No. 4 Atomizer is the *first* atomizer in which *both* air and water nozzles are automatically cleaned whenever the compressed air supply is shut off. It represents a distinct step forward in efficient, dependable humidifying devices.

Better Spray

This new Atomizer delivers and maintains its full rated capacity of unequalled smoke-like spray. Good nozzle design, smooth finish and exact centralization of air and water orifices produce a spray of exceptional fineness, intimately mixed with the air of the room and projected a long distance.

Automatically Self-Cleaning

Quality and quantity of spray are maintained even under adverse conditions because this atomizer is automatically self-cleaning. When the compressed air supply is shut off, either manually or in response to a humidity control, *both* air and water nozzles are thoroughly cleaned.

No Drip— No Feathering Down

The new AMCO No. 4 Atomizer eliminates the objectional drip or feathering down when the air pressure is shut off. Atomization does not begin until sufficient air pressure is present to produce a good spray, and, on stopping, atomization ceases before the air pressure drops to a point at which good spray is impossible.

Improved Construction

This new Atomizer is unique in its construction. The nozzles are surrounded by a smooth, concave, hemi-spherical surface protecting them from injury and preventing the accumulation of lint and fly which is swept away by the rapid, streamlined currents of induced air.

All working parts are made to close limits, of metals which are durable as to erosion, mechanical wear and corrosion. All joints are metal to metal accurately machined to assure tightness without the need of gaskets.

The outside bronze body is simple in design, easy to clean and attractive.

For New Work or Replacement

Conforming to standard practice in capacity, air pressure required and air consumption and also in air and water connections the new AMCO No. 4 Atomizer offers new possibilities for more efficient humidification in new work or on present systems.

Advantages

The use of this improved Atomizer will result in better atomization, assurance of maintenance of capacity delivery, elimination of manual cleaning labor, and no waste of power.

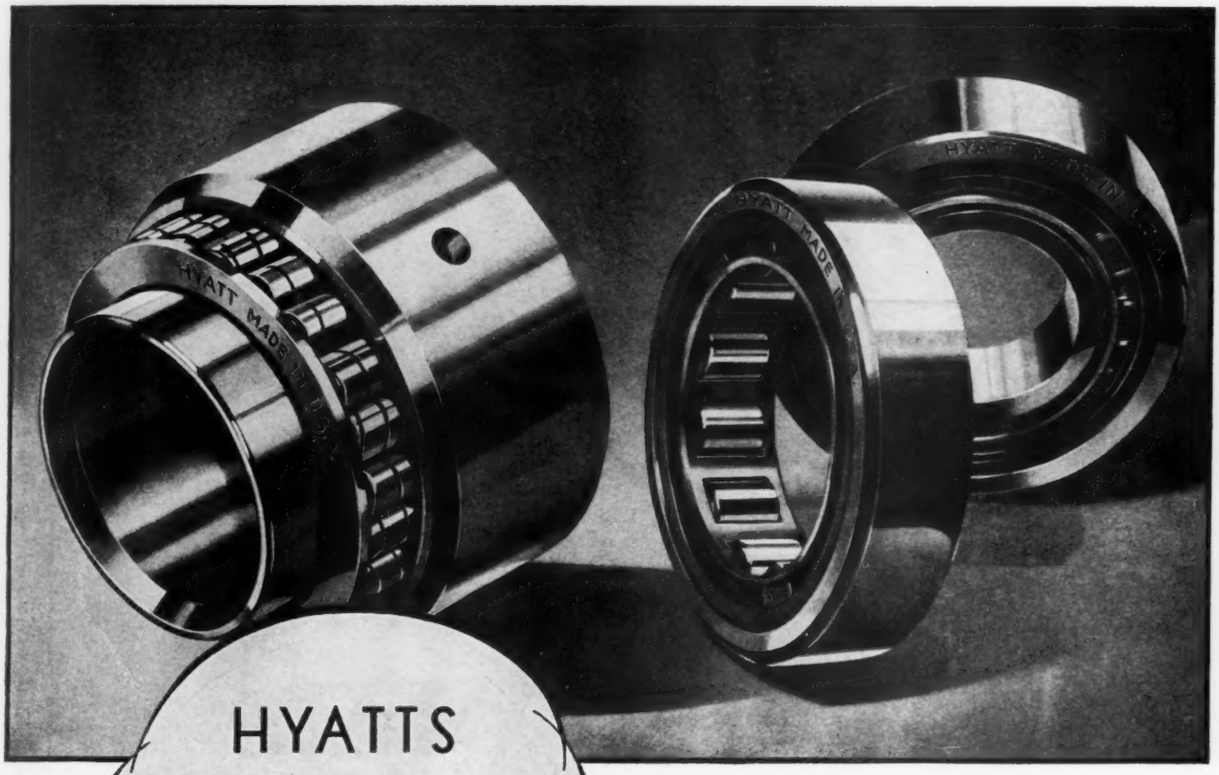
We shall be glad to demonstrate the superiority of this new Atomizer or to supply descriptive literature.

AMERICAN MOISTENING COMPANY

Established 1888

BOSTON, MASS. ATLANTA, GA. — PROVIDENCE, R. I. — CHARLOTTE, N. C. GREENVILLE, S. C.

Another evidence of the progressiveness and leadership of the American Moistening Company in producing efficient humidification equipment for the Textile Industry.



HYATTS *Save as they Serve*

The correct design, quality manufacture and sound application engineering of Hyatt Roller Bearings is a contributing factor to the better operation of modern looms, preparatory and finishing machinery. Look for Hyatts in the specifications—it's a sign of superior construction—your assurance of more and better cloth at less cost.

It is a well-known fact that Hyatt Roller Bearings are serving everywhere. And, as they serve, the user can tell you how they save, too.

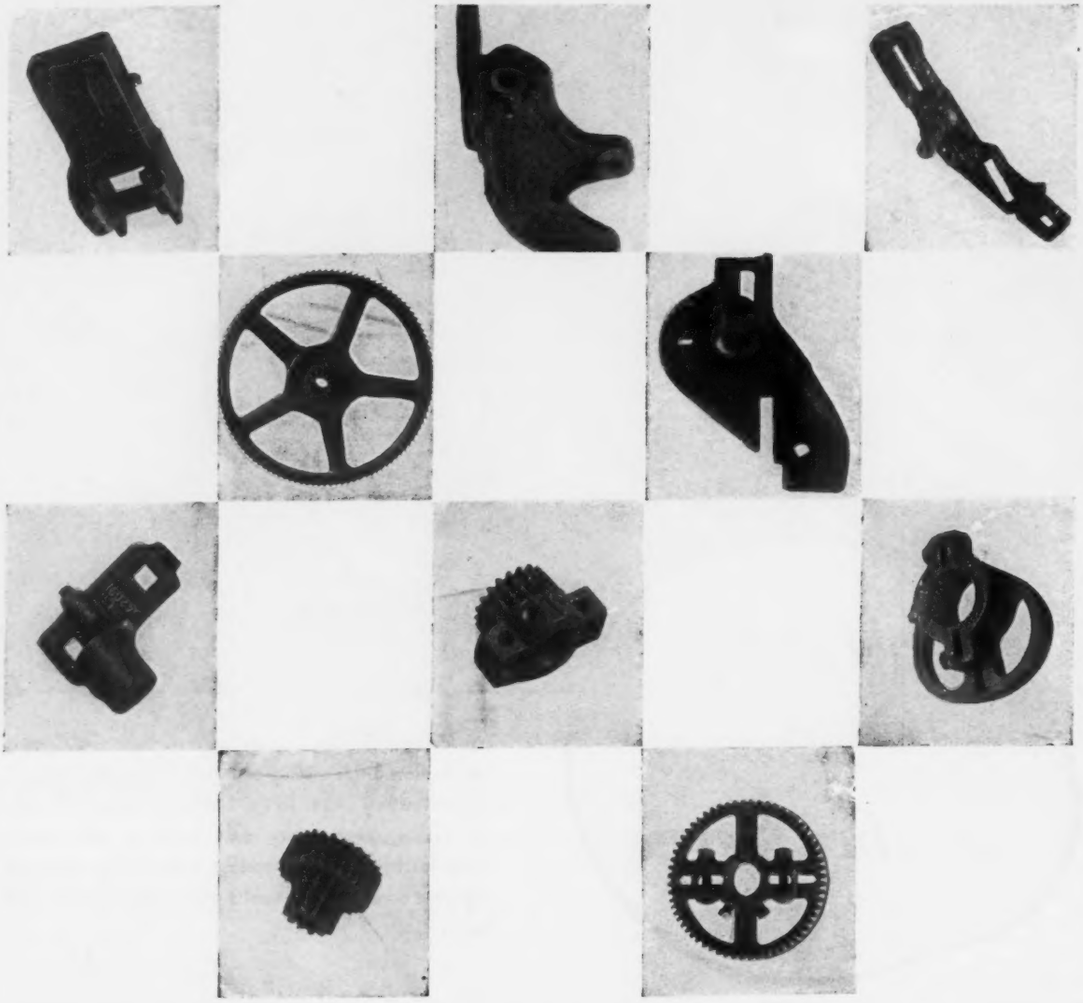
They save wear and tear on the equipment and help give it longer life. They save lubricant and the time necessary to apply it. And, because they assure smoother running, they save power.

Thus, the millions of Hyatt Roller Bearings which for years have served so well, are advance proof of how long the new millions will carry on whenever applied. Hyatt Roller Bearing Company, Newark, Detroit, Chicago, Pittsburgh, San Francisco.

H Y A T T

ROLLER BEARINGS

PRODUCT OF GENERAL MOTORS



NOW -- It's YOUR Move

If You Want To Reduce Maintenance Costs

We would like to have an opportunity of proving to you the claims we have been making for Henderson Repair Parts. Pick out the most troublesome part of any one of your machines and let us supply a Henderson Replacement Part for it. We are confident you will find it fits perfectly because it is made from a precision pattern—that it will last longer because it is made from quality materials and has strength where strength is needed—that it will run smoothly and aid the efficiency of the machine.

If you really want to reduce maintenance costs in your mill, it's YOUR move. Drop us a line today and tell us what parts you want and let us show you why Henderson Repair Parts mean real economy in the efficient maintenance of textile machinery. Henderson Foundry & Machine Works, Hampton, Georgia.

HENDERSON

TEXTILE REPAIR PARTS

PRODUCTION MANAGER:
Not a shut-down in 8 months from faulty lubrication!
PRESIDENT:
It makes our operations more profitable!
TREASURER:
The records show lubrication cost is less!
PLANT ENGINEER:
We're using less power—maintenance cost is down!

THE BIG FOUR O.K. THE *Big Four**

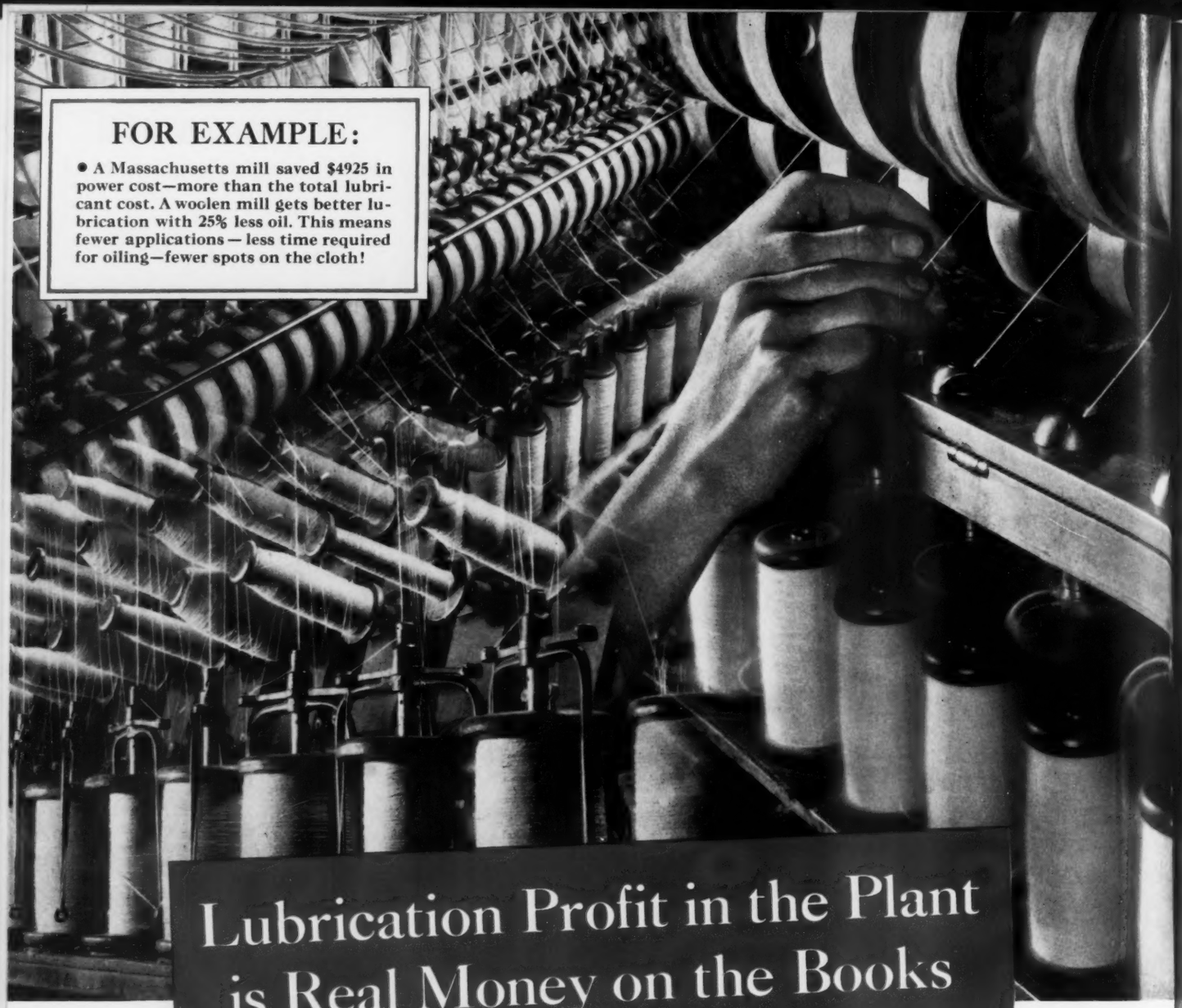
Socony-Vacuum Products receive hearty, unanimous approval in plants of every industry. Use them in your plant and you too can show a Lubrication Profit.

See Next Page...

***THE SUM OF THESE FOUR SAVINGS**

1. REDUCED POWER CONSUMPTION
2. MORE CONTINUOUS PRODUCTION
3. DECREASED MAINTENANCE
4. LOWER LUBRICATION COSTS

= LUBRICATION PROFIT



FOR EXAMPLE:

• A Massachusetts mill saved $4925 in power cost—more than the total lubricant cost. A woolen mill gets better lubrication with 25% less oil. This means fewer applications — less time required for oiling—fewer spots on the cloth!

Lubrication Profit in the Plant is Real Money on the Books

PLANT ENGINEERS will tell you in terms of power saved. Production managers will talk about lack of shutdowns and lower lubrication cost.

But where you'll find the complete report on the success of Socony-Vacuum lubricants is where these savings are totaled —the financial statement. For what is Lubrication Profit in the plant becomes real money on the company's books.

Putting extra profit on the books through correct lubrication practice has been a Socony-Vacuum service for 69 years.

A Socony-Vacuum engineer will make a study of your individual problems. What he recommends will be based on his own wealth of experience, access to the world's most complete file of lubrication data, and the experience of the company in working closely with equipment manufacturers.

Make use of this Socony-Vacuum service, and earn a Lubrication Profit in your plant.

MARKETING POLICY

INDUSTRY almost always finds that the controlled use of high-grade Gargoyle Lubricants pays for itself many times over and actually costs less to use than ordinary lubricants. But for such equipment as does not justify the highest-grade lubricants, Socony-Vacuum engineers will recommend a lower-priced lubricant consistent with true economy.

Socony-Vacuum, with a complete line of products, can supply the lubricants best fitted for the requirements of the individual lubricating job.

SOCONY-VACUUM OIL CO.

INCORPORATED

STANDARD OIL OF NEW YORK DIVISION · WHITE STAR DIVISION · LUBRITE DIVISION · WHITE EAGLE DIVISION
WADHAMS OIL COMPANY · MAGNOLIA PETROLEUM COMPANY · GENERAL PETROLEUM CORPORATION OF CALIFORNIA

GARGOYLE Lubricants

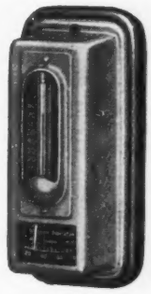
JOHNSON AUTOMATIC CONTROL

for Space Heating—

Johnson thermostats, room and insertion types, are all-metal throughout, no composition parts to deteriorate and become inoperative. Every instrument precise in construction and carefully tested for accuracy, efficiency, and durability . . . . . Gradual acting ROOM THERMOSTATS with jeweled bearings for control of direct heating and unit heaters. The DUAL two-temperature thermostat—a normal temperature for occupancy conditions—a reduced temperature for spaces not in use at certain hours . . . . . DUCT THERMOSTATS, one, two, three, and four-point, for successive operation of valves and dampers in indirect heating. DIFFERENTIAL THERMOSTATS to maintain desired temperature difference between two points, such as outdoors and treated space . . . . . SWITCHES, solenoid or manually operated, STATIC PRESSURE and VELOCITY regulators operating dampers for the regulation of air flow in ducts.

ROOM THERMOSTAT

Accurate regulation for space heating.



HUMIDITY INDICATOR

Direct reading of relative humidity with dry-bulb thermometer.

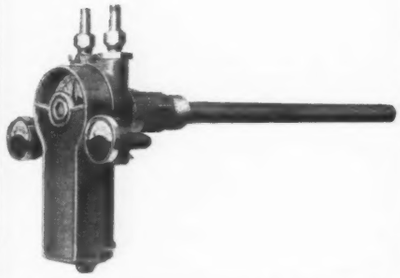
for Processing—

Mercury actuated EXTENDED TUBE THERMOSTATS, sensing temperatures at a point some distance from the operating mechanism of the instrument . . . . . REMOTE READJUSTABLE THERMOSTATS, room or insertion types, reset manually or thermostatically from a distant station . . . . . ADJUSTABLE RANGE THERMOSTATS, allowing variation of temperature tolerance between "off" and "on."

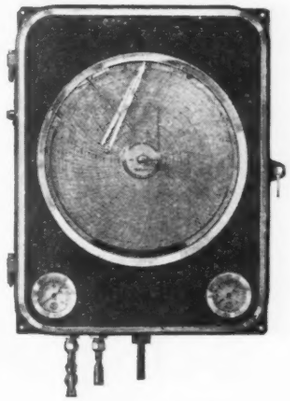
CALIBRATED INSERTION THERMOSTATS where accurate resetting at intervals is required. Useful for control of Size Storage Kettles and as level controllers in Size Boxes and Slasher Room.

Johnson "RECORD-O-STATS" are dependable, and accurate. Automatic temperature controller and recorder combined in a single instrument. Size Cooking Kettles, Size Boxes and Slasher Dryers are a few of the applications of the RECORD-O-STAT.

A Johnson sales engineer will make a survey of requirements without obligation.



CALIBRATED INSERTION THERMOSTAT



RECORD-O-STAT

Combined controller and recorder.

JOHNSON SERVICE COMPANY—Main Office and Factory: Milwaukee, Wis.

Branch Offices in Atlanta, Philadelphia, New York, Boston, and other Principal Cities

JOHNSON AUTOMATIC HEAT & HUMIDITY CONTROL

SAVE

Let Standard Oil lubricants help you show a saving—not on lubrication costs alone, but on power costs, and maintenance and repair expense as well.

Years of experience give Standard Oil a complete knowledge of lubricating requirements for textile machinery, and enables us to offer you the *correct type* of lubricants designed to reduce friction and operating costs in your plant.

●

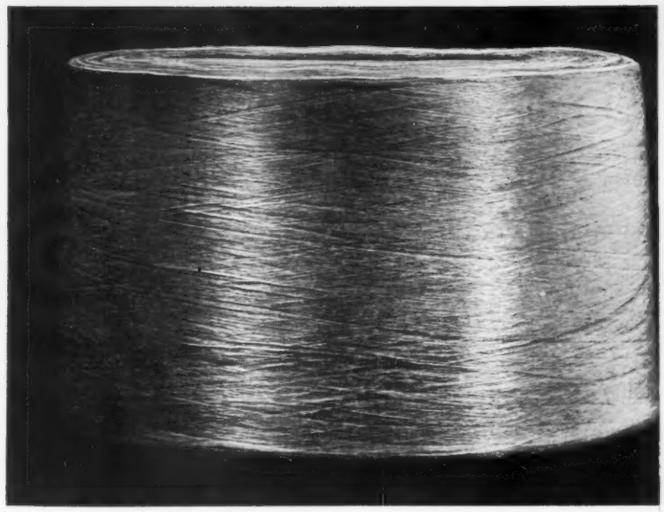
STANDARD OIL COMPANY

INCORPORATED IN KENTUCKY

Principal Offices:

ATLANTA, GEORGIA
BIRMINGHAM, ALABAMA
JACKSON, MISSISSIPPI
JACKSONVILLE, FLORIDA
LOUISVILLE, KENTUCKY
TAMPA, FLORIDA

A Complete Service to the Rayon Industry



Cake made on Butterworth fast traverse Pot Spinning Machine. Note the open wind which makes washing easier and much more economical.

We frequently have been asked if we make this or that type of Rayon Equipment

***The answer is:* WE DO!**

●

IN this equipment is included fast traverse Pot Spinning Machines and Bobbin Spinning Machines. Both these machines are totally enclosed and entirely self lubricated.

Then there is the Butterworth Xanthater which we make in both hexagon and round shapes and in either one or two batch types arranged to receive CS_2 solution by gravity feed.

BUTTERWORTH 3-PISTON TYPE PUMP —both circulating and non-circulating types. Case and Rotor of these pumps are made of a special grade of Meehanite Iron widely known for its resistance to wear. They are arranged to fit any type of pump bracket.

We also make gears, bushings, mushrooms, spindles, and are agents for Steeping Presses, both mechanical and hydraulic, Shreading Machines and Mixers.

To Complete This Service to the Rayon Industry We Also Make TUBE-TEX PROCESSING and FINISHING MACHINES for TUBULAR KNIT GOODS, and a Complete Line of Dye Becks of both Wood and Stainless Steel Construction.

Tube-Tex Machines have speeds up to 35 yards per minute. Special literature describing and illustrating various types of Tube-Tex Processing, Steaming and Finishing Machines will be sent promptly.

In addition to the above machines we also make YARN DYEING EQUIPMENT and FINISHING MACHINES for piece goods.

H. W. BUTTERWORTH & SONS CO.

Established 1820

PHILADELPHIA, PA.

PLANTS *at* PHILADELPHIA *and* BETHAYRES, PA.

New England Office:	*Southern Office:*	*In Canada:*
TURKS HEAD BUILDING	JOHNSTON BUILDING	W. J. WESTAWAY CO.
Providence, R. I.	Charlotte, N. C.	Hamilton, Ontario

BUTTERWORTH *finishing* MACHINERY

A COMPLETE LINE OF FINISHING AND RAYON MACHINERY FOR THE TEXTILE INDUSTRY

IF YOU SANFORIZE... USE THIS OIL

NOPCO 60 FINISHING OIL

A finishing oil providing all the excellent qualities of the regular line of Nopco finishes—but formulated especially to meet the demands of the Sanforizing process.

DOES NOT DISCOLOR—DEVELOPS NO ODOR

Nopco 60 finishing oil is resistant to oxidation, thus assuring two important features in the Sanforizing of materials: complete freedom from discoloration, and the absence of odors.

ASSURES QUICK WETTING-OUT—BETTER FIBRE SETTING

The readiness with which Nopco 60 finish wets out makes it ideal as an aid to uniform shrinkage during tentering — and assures proper lubrication.

PROVIDES A SMOOTH EVEN FINISH

The superior wetting features of Nopco 60 —together with its better lubricating qualities—combine to provide a smoother, evener finish, thus improving the appearance and quality of the finished material.

CAN BE EASILY TESTED

A sample of Nopco finishing oil will be sent upon request enabling you to test its qualities in your own mill. Mail the coupon below for sample, data sheets and technical information.

NATIONAL OIL PRODUCTS COMPANY
Harrison, N. J.

Boston **Chicago** **San Francisco**

NOPCO

Members of the Throwsters Research Institute

National Oil Products Company *(Send for this sample of Nopco 60 today.)*
Harrison, N. J.

Gentlemen: Please send me a sample of Nopco 60 finishing oil for Sanforizing, and complete data and technical information.

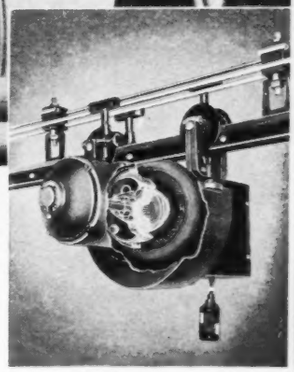
Name _____ Company _____

C-10

Address _____

AMERICAN MONORAIL COMPANY

Overhead materials handling **REDUCES** *materials handling overhead*



The Electric Air Wheel Drive Tractor wi move heavy loads and may be arranged fo remote control. It has proved extremel efficient for lifting and moving stock when there is a large amount of handling. may be coupled to an electric hoist uni and will operate up and down heav grades under full control.

SHARPLY reduced handling costs are reported by mills equipped by American MONORAIL for overhead materials handling. Over slasher creels and between warpers and slashers; in the weave room and especially for 20" beams and narrow alleys; for section beam storage around warpers or slashers; in dyeing and bleaching mills over machines; in finishing plants at calendars and folders—American MONORAIL systems are amortizing their costs by the actual savings they effect soon after installation. Adaptability in handling trains of doff boxes between buildings or departments is an outstanding advantage. As an entire materials handling system, or supplementing and "feeding" other mechanical handling methods, MONORAIL travels on the ceiling and leaves the aisles clear, allowing maximum headroom.

A preliminary survey to disclose cost-reducing possibilities of MONORAIL *will be made by our engineers, without obligation. Systems are fabricated to fit and erected when desired. Remember,* overhead materials handling *reduces* materials handling overhead.

THE AMERICAN MONORAIL COMPANY, 13101 Athens Avenue, Cleveland, Ohio

New DULUX *Super White hides dark, soiled surfaces like magic. Is whiter at start—stays whiter*

WHEN it comes to turning black into white, DULUX Super White is the magician for modern plants. This new and entirely different chemical development from du Pont laboratories hides a dirty, stained wall with surprising ease and minimum cost.

Dark, soiled surfaces disappear under the super-white DULUX film, which contains the whitest pigment known today. In many cases only one coat of DULUX is necessary. And just as important as this is the fact that DULUX retains its whiteness . . . does not become yellow and dirty as fast as other mill whites.

The unusual hiding and solid coverage of DULUX are assurance of low material cost. The smooth, free flow of DULUX off the brush and the even, uniform spread reduce painter fatigue and increase the painting rate. Here is economy in application.

In every one of the 10 points listed here DULUX Super White demonstrates its position as the outstanding mill white today. A new booklet—"DULUX—The Mill White That Stays White"—covers all of them. Send for your copy and read it thoroughly. Then let us help you make your own test on your own mill walls. That is final proof. Address E. I. du Pont de Nemours & Co., Inc., Finishes Division, Wilmington, Delaware.

DU PONT
DULUX
REG. U. S. PAT. OFF.

1 IS WHITER AT THE START
2 STAYS WHITER
3 EASY TO APPLY
4 MORE DURABLE
5 PRE-TESTED IN "LAB" AND PROVED IN ACTUAL SERVICE
6 QUICKER DRYING
7 HAS EXCEPTIONAL HIDING AND COVERS SOLIDLY
8 COLLECTS LESS DUST
9 HAS HIGHER ORIGINAL GLOSS AND KEEPS HIGHER GLOSS
10 STANDS REPEATED WASHINGS

THE 10-POINT FINISH

New DU PONT
REG. U. S. PAT. OFF.

DULUX SUPER WHITE
REG. U. S. PAT. OFF.

The Whitest Mill White—and it stays white

From any Point of View . . . it's

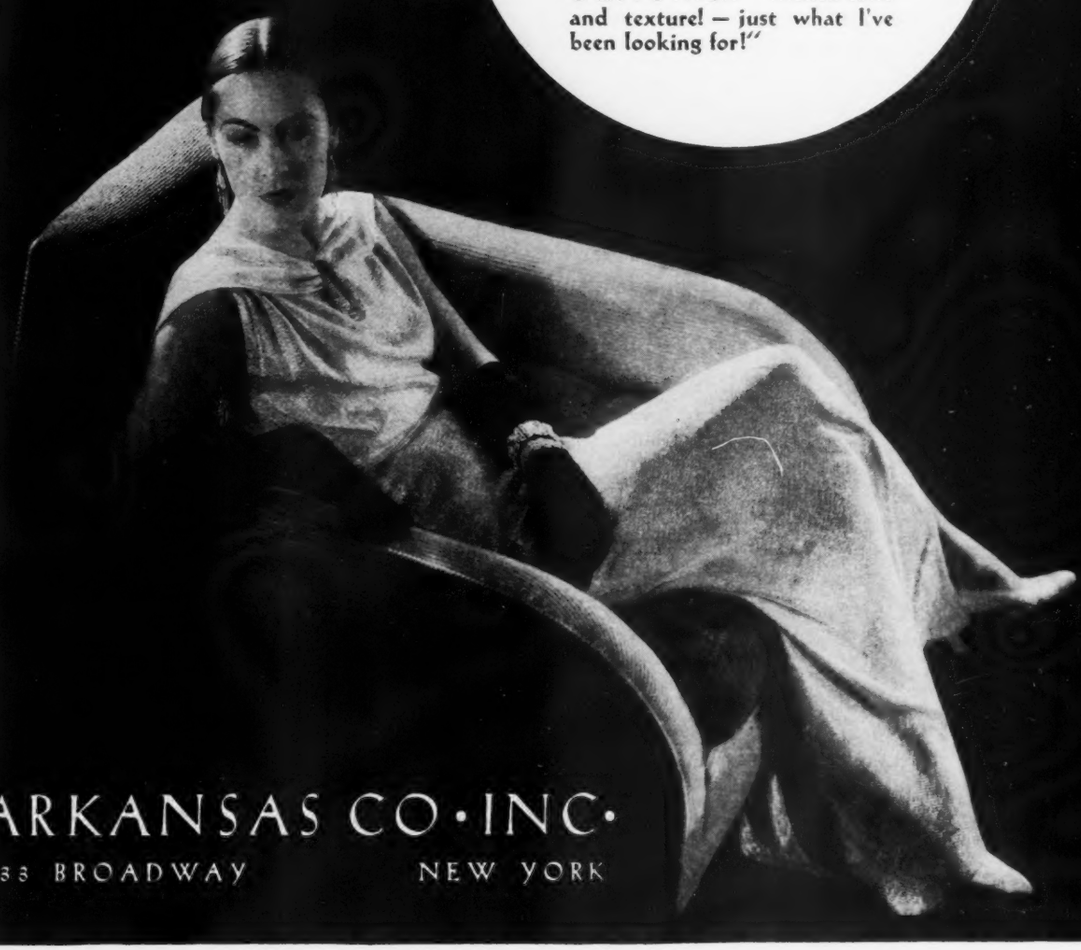
PARAPON

SUPERINTENDENT "... it saves time and money—does a better job."

FINISHER "... gives a finer, softer finish — without that 'greasy' feel."

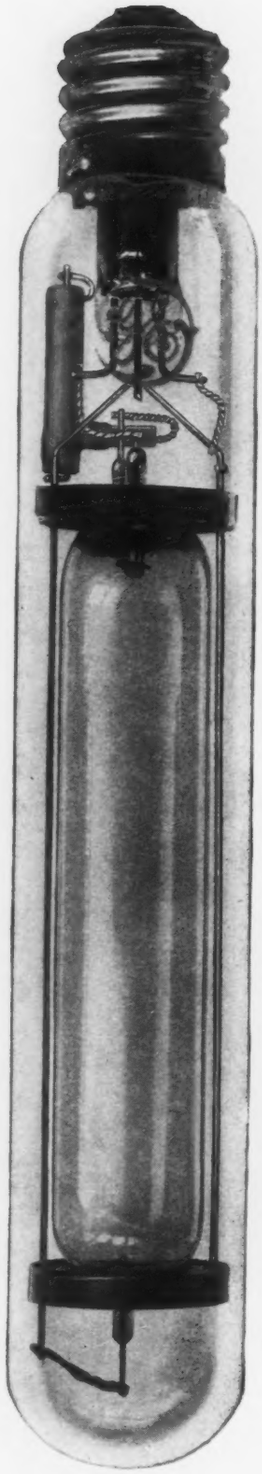
RETAILER "...creates a superlative effect—a mellow, fluid drape."

CUSTOMER "...such tone and texture! — just what I've been looking for!"



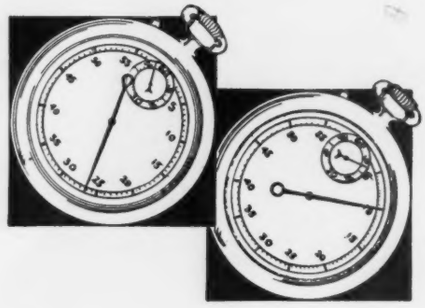
ARKANSAS CO·INC·

233 BROADWAY NEW YORK



Quicker VISUAL RESPONSE

saves time and promotes safety



Details unseen under other types of commercial lighting are clearly *and quickly* visible under the new General Electric High-Intensity Mercury Vapor Lamp. Long hours of work under this light produce no eye-strain. Excessive contrasts between light and shadow are eliminated. What few shadows there are, are luminous.

Greater lighting efficiency—more lumens per watt—is one of the inherent qualities of the G. E. High-Intensity Mercury Vapor Lamp. In fact, the lamp costs less to operate than ordinary light on the basis of light emitted per watt of power.

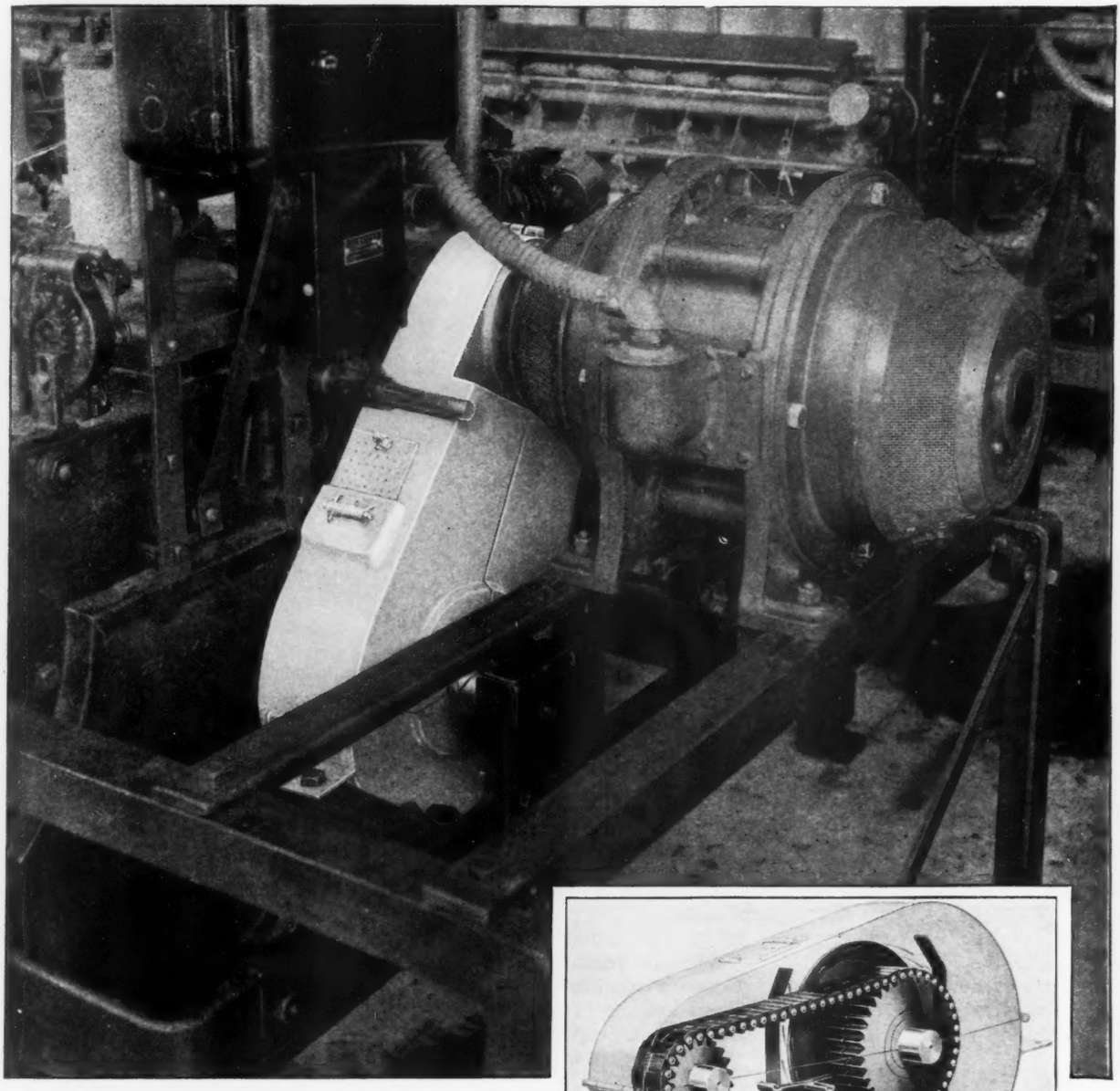
Full details are contained in a sixteen-page booklet which can be secured by writing the General Electric Vapor Lamp Company, 853 Adams Street, Hoboken, New Jersey.

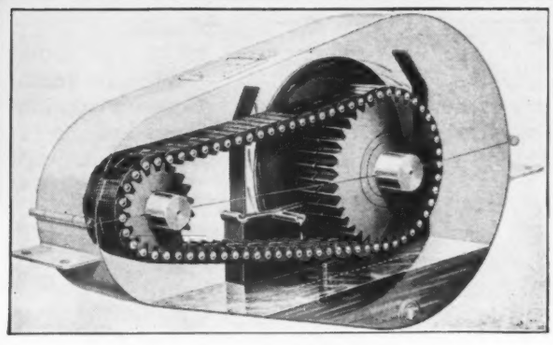
GENERAL ELECTRIC VAPOR LAMP COMPANY

Order your auxiliary devices which were designed especially for this lamp from the General Electric Vapor Lamp Company.

HIGH INTENSITY *Mercury Vapor Lamp*

657 Copr. 1934, General Electric Vapor Lamp Co.





NO UPKEEP . . . . . NO SLIP
PRACTICALLY NO ATTENTION

THESE are outstanding characteristics of Link-Belt silent chain drives. They give long years of dependable service with the following results: Low upkeep expense . . . high production . . . more uniform quality of product . . . safety and automatic lubrication (drive enclosed in Tex-Til casing which absolutely prevents oil leakage and assures a cool-running drive with Drop-By-Drop lubrication) . . . definite speed ratios always maintained between driver and driven wheels . . . no slips. Drives up to 60 H. P. stocked by distributors.

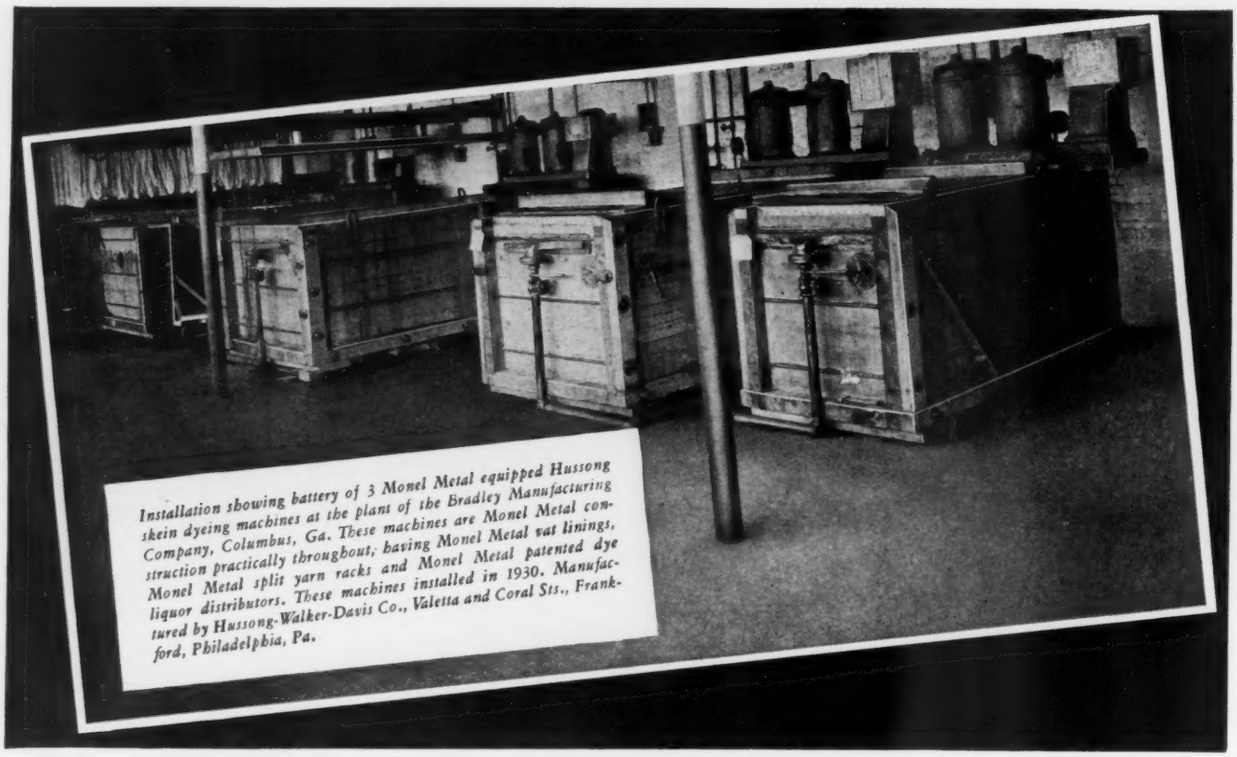
5405

LINK-BELT COMPANY
The Leading Manufacturer of Positive Power Transmitting Equipment
CHICAGO PHILADELPHIA INDIANAPOLIS ATLANTA SAN FRANCISCO TORONTO
Offices in Principal Cities

LINK-BELT

SILVERSTREAK SILENT CHAIN DRIVE

5 YEARS *on the job—and still* EARNING DIVIDENDS!

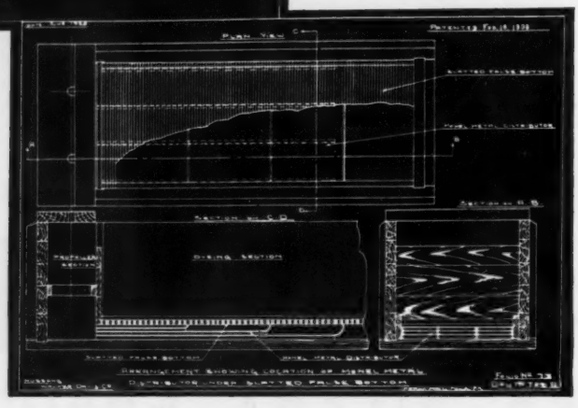


Installation showing battery of 3 Monel Metal equipped Hussong skein dyeing machines at the plant of the Bradley Manufacturing Company, Columbus, Ga. These machines are Monel Metal construction practically throughout, having Monel Metal vat linings, Monel Metal split yarn racks and Monel Metal patented dye liquor distributors. These machines installed in 1930. Manufactured by Hussong-Walker-Davis Co., Valetta and Coral Sts., Frankford, Philadelphia, Pa.

ONE of these Hussong dyeing machines has 200 lb. capacity . . . one 300 lb. . . . and one 500 lb. Each is lined with Monel Metal. And the split yarn racks and patented dye liquor distributors are also Monel Metal. Why?

Visit the Bradley Manufacturing Company's dyehouse where these machines have been in constant use for five years and you'll see:

1. No evidence of wear.
2. No rust . . . Monel Metal *cannot* rust.
3. No signs of corrosion or chemical action between dye bath and the Monel Metal . . . which means no off-shades.
4. No roughened areas, no splinters, no chipped spots or cracks . . . absolutely no chance for yarn to catch or suffer harm. Monel Metal retains its smoothness through the years.
5. No soaked-in dye. Monel Metal absorbs no dye material, hence requires no long boil-outs between color changes.
6. No evidence of repairs or replacements. Monel Metal is stronger than steel, tough and durable. It wears for years in the hardest service.



MONEL METAL

Monel Metal is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.

What you see with your own eyes is often more convincing than any mere words. Write for the names of a few users of Monel Metal equipment. Also illustrated literature that shows typical installations. Ask for "List B." Address, please,

THE INTERNATIONAL NICKEL COMPANY, INC.
67 WALL STREET NEW YORK, N. Y.

Monel Metal

ACHIEVEMENT

Courtesy of the French Line

The NORMANDIE—largest, fastest and most magnificent of ships—is today's greatest expression of shipbuilding science learned through centuries of experience.

STEIN HALL have manufactured textile gums and dextrines since 1866, and as a result of many years of experience are today supplying the industry with products which are scientifically the "last word."

There are Stein Hall gums and dextrines for all types of printing and finishing, insuring maximum results and utmost economy.

STEIN, HALL & COMPANY, INC.

EST. 1866

285 MADISON AVENUE NEW YORK CITY

BOSTON PROVIDENCE CHICAGO PHILADELPHIA CHARLOTTE SAN FRANCISCO

TORONTO ROCHESTER BUFFALO LOS ANGELES

HEADQUARTERS FOR ALL TEXTILE STARCHES, DEXTRINES, GUMS AND TAPIOCA FLOURS

Labels
ALL KINDS

Tickets
AS USED ON BLANKETS

Hang Tags
Bolt Ends
Stickers
FOR IDENTIFICATION AND CONSTRUCTION SPECIFICATIONS

Riders
Box Tops
FOR HOSIERY

Bands
FOR ALL BOLT GOODS HOSIERY OR SHIRTS

These are

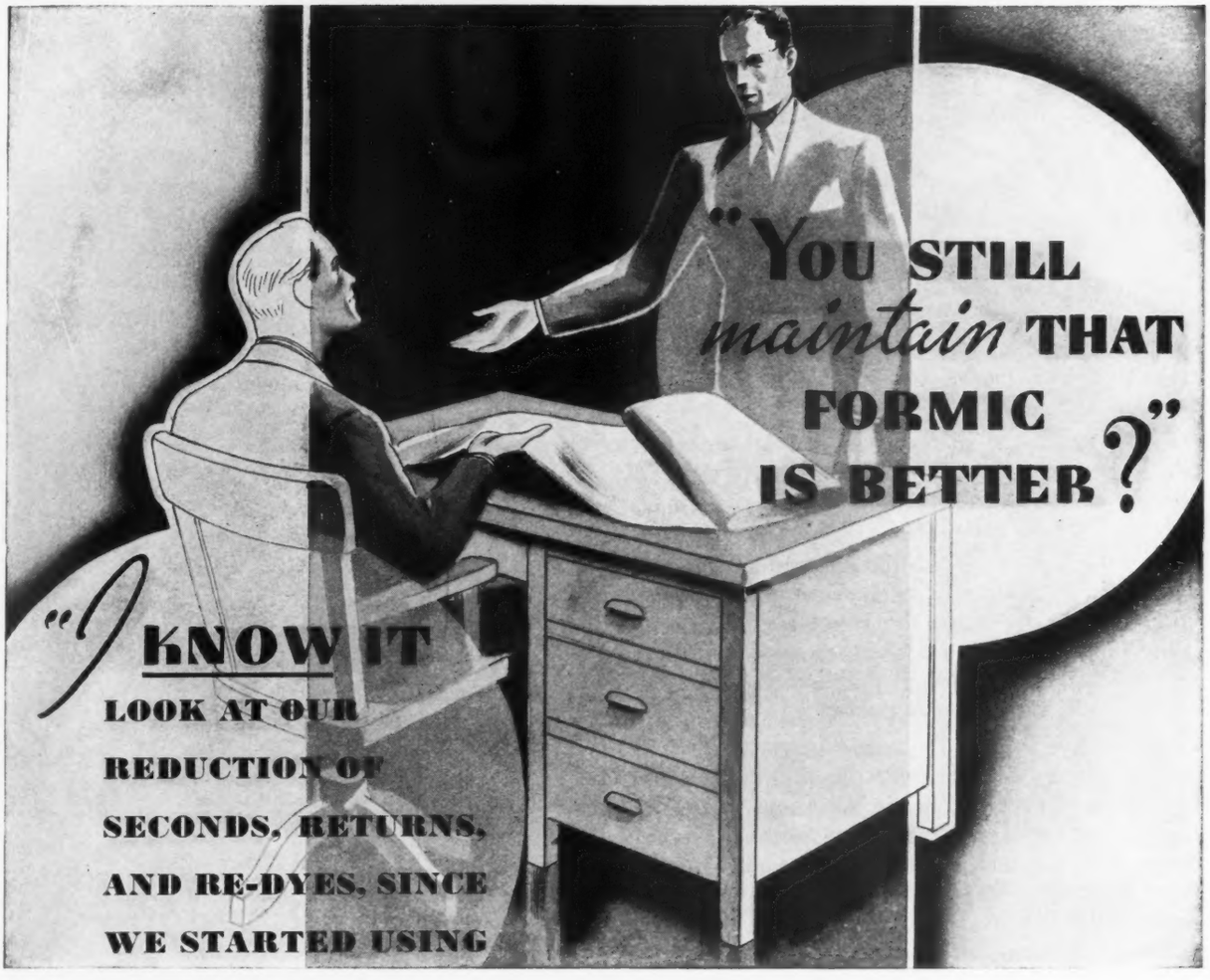
SALES BUILDERS

For
SOUTHERN TEXTILES

NEW DESIGNS · REPRODUCTIONS

JACOBS GRAPHIC ARTS COMPANY

CLINTON · S.C.


"YOU STILL maintain THAT FORMIC IS BETTER?"
"I KNOW IT
LOOK AT OUR REDUCTION OF SECONDS, RETURNS, AND RE-DYES, SINCE WE STARTED USING

GRASSELLI FORMIC ACID

● You, too, will be uniformly gratified with the improved results and brighter shades from many of your dyeing operations; even in cross-dyeing, you can produce dyed fabrics that are perfectly level, when you have GRASSELLI Formic Acid in the dyebath. Streaky, cloudy colors are eliminated; and no matter how delicate the fabrics, they cannot be tendered by this mild, safe acid.

GRASSELLI Formic Acid, 85% and 90%, not only produces superior results, but saves expensive dyestuffs as it completely exhausts the dyebath. Moreover, it is volatile on drying.

Let GRASSELLI Formic aid you in securing level, brilliant colors in your dyed fabrics. Any Grasselli branch can supply you—there's one near you.

GRASSELLI DU PONT

LET US ALSO QUOTE YOU ON

Acetic Acid
Acetate of Soda
Acetate of Lead
Alums, U. S. P.
Aqua Ammonia
Barium Chloride
Bi-Chromate of Soda
Bi-Sulphate of Soda
Bi-Sulphite of Soda
Carbonate of Soda
Caustic Soda Solid and Flake
Chloride of Lime
Chloride of Zinc
Epsom Salts
Glauber's Salt
Lactic Acid
Muriatic Acid
Nitric Acid
Oxalic Acid
Phosphate of Soda
Silicate of Soda
Sulphate of Alumina
Sulphate of Soda, Anhydrous
Sulphite of Soda
Sulphide of Soda
Sulphuric Acid
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THE GRASSELLI CHEMICAL COMPANY, INC.
Founded 1839 **Cleveland, Ohio**
New York and Export Office: 350 Fifth Avenue

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San Francisco, 584 Mission Street
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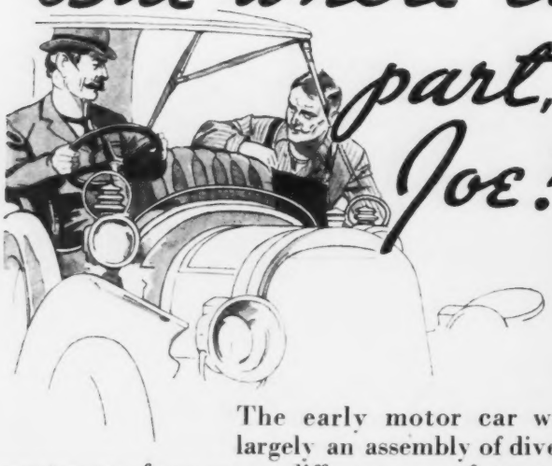
Represented in Canada by CANADIAN INDUSTRIES, LTD.
General Chemicals Division—Montreal and Toronto

"But where can I get a new part, Joe?"



The early motor car was largely an assembly of divergent parts from many different manufacturers. Today, it is a unified mechanism, every part manufactured by or to the strict specifications of the manufacturer. There is *one* responsibility for its proper functioning, and effective standardization in replacement parts.

Why not insist on the same uniformity, the same single manufacturer responsibility in your plant piping? Of all places in an industry, that's where you need to practice economy. That's where you must maintain constant vigil against waste and maintenance costs. That's where uniformity in design, manufacture and *integrity* return the greatest dividends. Interchangeable parts, small stocks, a ready source of supply—and a manufacturer who takes responsibility for the whole piping job.

Crane Co. offers a complete, integrated, plant piping service—in materials, in assistance to your engineer and consultants, in assurance that every Crane product in your plant will do its work dependably and well.

CRANE SHOP FABRICATION SERVICE

Design	Flanging
Casting	Cutting
Bending	Threading
Welding	Assembling

There is a Crane Valve or fitting for every piping requirement

Comprehensive stocks in or close to every industrial community. Fabrication facilities for the most difficult project—and for the simplest. Call your nearest Crane branch for complete information.

CONTROL

Crane No. 960 Pressure Regulator

1 A pressure regulator, not just a reducing valve.

2 The No. 960 will maintain the desired reduced pressure whether a large or small quantity of steam or air is being consumed.

3 Shuts off positively, preventing building up of service pressure when demand stops.

4 Simple in operation and construction, with all parts readily accessible for inspection.

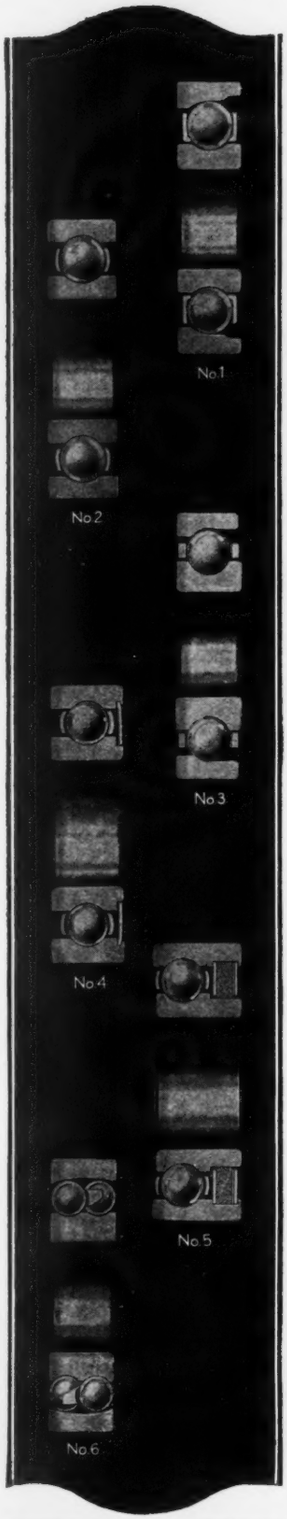
5 One regulator, when size is properly chosen on basis of capacity, will accomplish a large reduction between initial and service pressure.

CRANE VALVES, FITTINGS and PIPE FABRICATION

CRANE CO. GENERAL OFFICES 836 SO. MICHIGAN AVE. CHICAGO, ILL. • NEW YORK 23 W. 44TH STREET

Branches and Sales Offices in One Hundred and Sixty Cities

PRECISION



FOR PRODUCTION AT LOWER COST

In comparing values, let proved performance be the deciding factor. Look beyond first cost, to the ultimate cost over a period of years. * * * For nearly 25 years, in every field of industry, Norma-Hoffmann **Precision** Bearings have been making distinguished records for unfailing dependability—records which command the confidence of those seeking the lower production costs that come with the use of better bearings.

APPLICATIONS OF PRECISION BEARINGS IN TEXTILE MACHINERY

Agers	Looms	Spinning Machinery
Beaters	Mules	Spoolers
Breakers	Nappers	Tenters
Brushing Machines	Openers	Twisters
Calenders	Pickers	Warpers
Cards	Rayon Machinery	Washers
Drying Machines	Shears	Winders
Dyeing Machines	Silk Machinery	Wool and Worsted Machinery
Extractors	Slashers	
Garnetts		

PRECISION BEARINGS

For Every Load, Speed and Duty

No one type of bearing is so versatile in its operating characteristics that it will meet all the wide diversity of duties in the textile industry. From the comprehensive **Norma-Hoffmann** line, however—here illustrated in part, and briefly indexed—a **Precision** Bearing, or several in combination, can be chosen that will satisfy almost any conditions of operation.

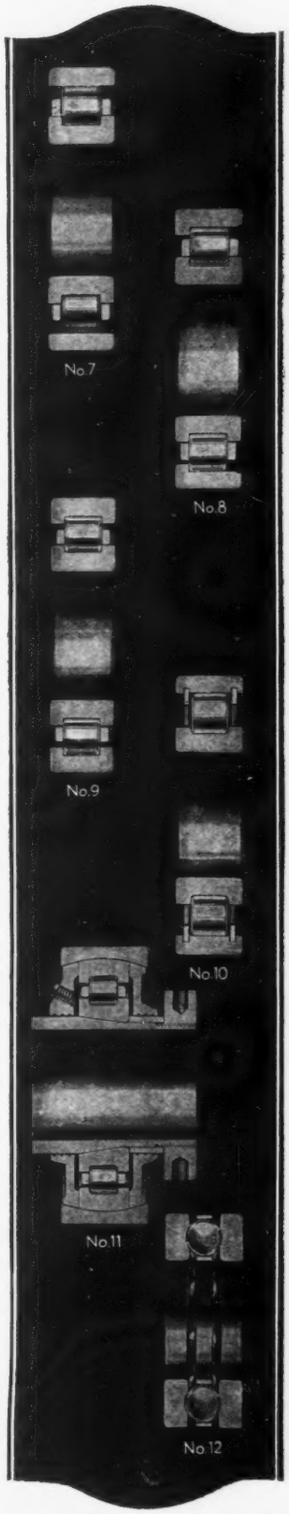
1. Open (separable) type ball bearing.
2. Closed radial type ball bearing.
3. Angular contact ball bearing.
4. Single-plate, grease-retaining, dirt-excluding ball bearing; available in double-plate type also, fully enclosed.
5. "Greaseal" felt-protected ball bearing; available also with double felt seal, or with side plate, both fully enclosed.
6. Double-row, self-aligning ball bearing; also furnished with adapter sleeve and nut.
7. Standard cylindrical roller bearing.
8. One-lipped cylindrical roller bearing.
9. Two-lipped cylindrical roller bearing.
10. Full type (retaining ring) cylindrical roller bearing.
11. Self-aligning adapter type cylindrical roller bearing with grease-retaining, dust-and-moisture-excluding side plates.
12. Ball thrust bearing.

Write for the Catalog. Let our engineers work with you.

NORMA-HOFFMANN BEARINGS CORPORATION

Stamford, Conn., U. S. A.

"NORMA-HOFFMANN"



BEARINGS

IT HELPED MAKE MILLIONS FOR HIM
IT CAN MAKE MONEY FOR YOU

Much of the late Andrew Carnegie's success is commonly attributed to the fact that he was always quick to recognize and employ the abilities and experience of others, even though his own mentality and experience were exceptional.

The moderate size of the average chemical processing plant or department in the textile industry does not permit the *hiring* of *group* ability and experience on any such scale as did Carnegie. This fact, plus a rapid increase in number and complexity of textile chemical problems, in recent years, has created a definite need in the industry for the *occasional* services of textile chemists of a high order.

CHEMICALS

Sizing and Finishing Gums and Compounds • Soluble Gums • Softeners • Soluble Oils • Tallow • Waxes • Soaps • Flour • Dextrines • Starches • Pigment Colors and Lakes • Ammonia • Acids • Blue Vitriol • Borax • Bichromate of Soda • Bichromate of Potash • Liquid Chlorine • Chloride of Lime • Caustic Soda (solid and flaked)

A-H Consultation Service is filling this need, free of charge, for many textile plants to-day. This service is rendered by a staff of specially trained chemists, assisted by a completely equipped, modern laboratory and a company experience of 120 years.

Collective thinking helped make millions for Carnegie. It can make money for you. Have you a new sizing, finishing or printing problem calling for group analysis and prescription? Would you like to check up on the efficiency of your present routine processing methods?

If so, tell us your problem and we may be able to make recommendations that will save you money. No obligations.

Arnold, Hoffman & Co., Inc.

Established 1815. Plant at Dighton, Mass.

PROVIDENCE, R.I.

New York • Boston • Philadelphia • Charlotte

A FRANK SUMMARY

OF THE ADVANTAGES AND DISADVANTAGES OF

Water Conditioning Equipment

In a recent article in *Textile World*, Mr. Fowle, Associate Editor of that magazine, discussed the question: "Can the Mill Owner Afford to Make Capital Expenditures Today?"

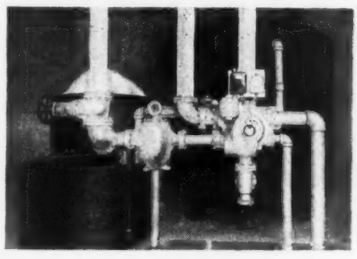
In his introduction, Mr. Fowle pointed out the undeniable fact that the manufacturer with the best tools and technique is in the best position to profit from his efforts. He lists nine points by which the worth of special equipment should be judged. We will rate Permutit Water Conditioning by his yardstick.

1. *Will Permutit Water Conditioning Equipment Increase Production?*

   Yes. Permutit equipment can make your supply water absolutely soft, thereby eliminating harsh, insoluble curds from wet-processing. As a result, fibres come through clean and pliable . . . and you get less yarn breakage than formerly. Also, there are fewer reruns and rejections, so production is increased.

2. *Will Permutit Equipment Save Labor?*

   Yes . . . in the boiler plant of a textile mill. Hard water scales up tubes, and necessitates frequent turbining and tube replacements. Permutit softened water eliminates scale, and reduces this labor and expense to a minimum.



Bring your old equipment up-to-date. Install Permutit's new single-valve automatic control, and refill your softener with Super-Zeo-Dur. This new greensand zeolite has been recently perfected . . . it uses less salt, and has 75% higher capacity for softening water than ever before. Write for details.

3. *Will Permutit Equipment Improve the Quality of Your Finished Goods?*

   Yes. This is the outstanding advantage of Permutit equipment. Textile experts agree that practically all mill water supplies *must* be properly conditioned to enable finished goods of soft, smooth texture and even, full-bodied color to be produced.

4. *Will You Have Lower Up-Keep Costs With Permutit?*

   Yes. Enough soap, soda and bleach are *saved* to pay for Permutit equipment within two years . . . sometimes in a single year.

5. *Will Your Power Costs Be Reduced?*

   Yes. Boiler plant maintenance is reduced to a minimum (see answer No. 2).

6. *Is Permutit Equipment Flexible Enough to Its Operation to Take Care of Changes and Improvements in the Mill?*

   Yes. This point has been covered in from other machinery, and can be regulated to meet any new requirements of faster or slower mill production.

7. *Will Permutit Reduce Your Floor Space Requirements?*

   No. But Permutit equipment can be installed in an outbuilding or in any odd corner of your plant. Therefore, it does not interfere with the present location of your machinery or add to your space requirements.

8. *Will Permutit Equipment Reduce Waste of Raw Materials and Supplies?*

   Yes. This point has been covered in answer No. 4. As much as 50% of your soap, soda and bleach are saved. Also, fuel costs in the boiler room are reduced.

9. *Will Permutit Equipment Reduce the Danger Hazard for Your Workers?*

   No. Permutit equipment offers no advantages for increased safety.

• • • •

More than 1,000 textile mills now use Permutit Water Conditioning Equipment. This equipment may be purchased under the terms of the Federal Housing Act. Your monthly savings will exceed your monthly payments! If you would like complete information about Permutit and its place in your plant, use the coupon below and get our free booklet: "Reducing Textile Costs and Troubles."

Permutit

Water Conditioning Equipment

THE PERMUTIT COMPANY, Dept. B1, 330 West 42nd St., New York City

Please send me, without obligation, your latest booklet on "Reducing Textile Costs and Troubles."

NAME _____

POSITION _____

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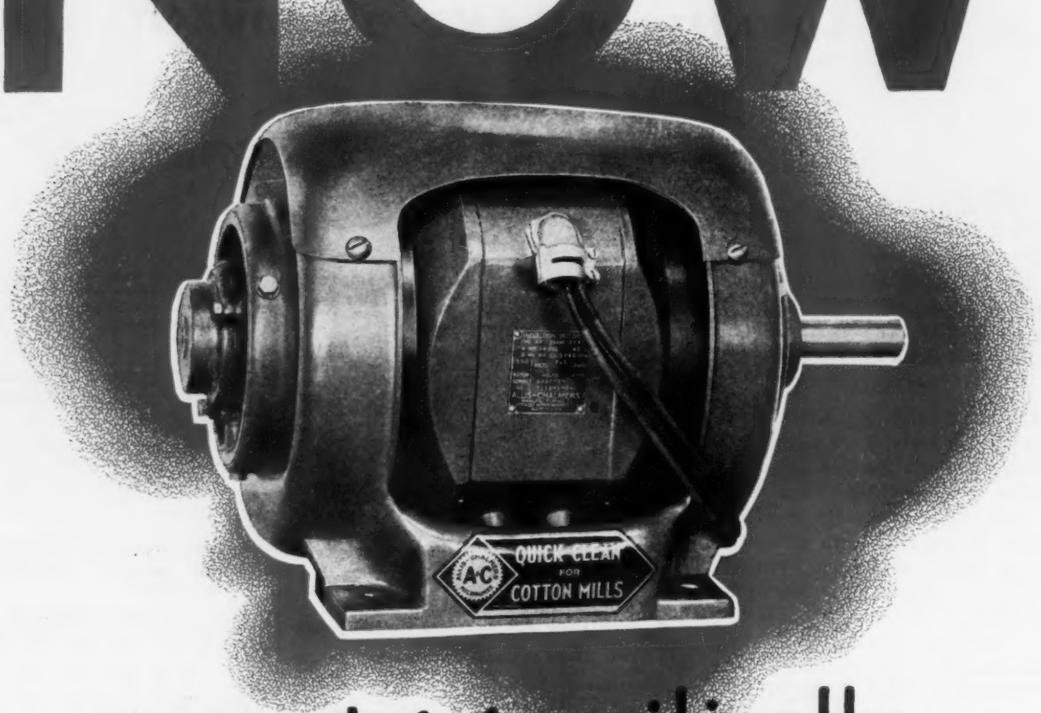
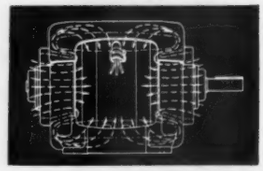
NOW



..a motor specifically designed for YOU

This is the only motor on the market that has been specifically designed to meet the specific needs of the Textile Industry. Lint and dust will not foul this motor. ◆ Here is why . . . it has big unrestricted air passages; all working parts are positively dust-sealed; surfaces are glass-smooth so that lint and dust can't adhere to them. ◆ This motor cleans itself—with the result that overheating is eliminated and maintenance costs go down with a bang! Four sizes—5, 7½, 10 and 15 hp. Standard N.E.M.A. mounting dimensions.



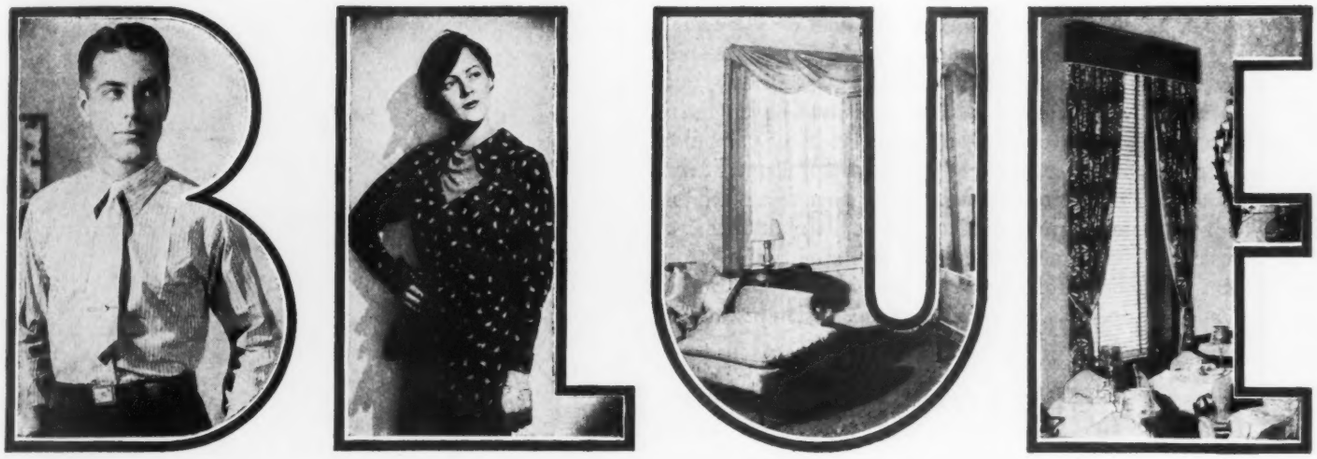
Cut-away section of motor showing internal construction. Note large, smooth, unrestricted air passages for thorough ventilation

MOTORS

QUICK-CLEAN

ALLIS-CHALMERS MFG. CO. MILWAUKEE, WISCONSIN

PONSOL*



BF SOLUBLE

(*Patented*)

PONSOL Blue BF Soluble (Pat.) is an outstanding *soluble* vat dyestuff which is of interest principally for printing:
SHIRTINGS — DRESS MATERIALS — CURTAINS — DRAPERIES

A brilliant, clear red shade of blue possessing excellent fastness to light and washing, very good fastness to chlorine and unusual fastness to practically all color-destroying influences.

This new *soluble* vat dyestuff can be particularly recommended for cotton and rayon prints. It is also suitable for use as a padding color for producing light to heavy shades.

**Reg. U. S. Pat. Off.*

DU PONT DYESTUFFS

E. I. DU PONT DE NEMOURS & CO., INC.
Organic Chemicals Department
Dyestuffs Division, Wilmington, Delaware

CHALLENGER

THE BELT THAT CUTS TRANSMISSION COSTS

★ Because its essential properties are fully developed and scientifically balanced, Challenger Square Edge Belting increases efficiency and thus reduces costs on all types of high speed and heavy duty transmissions. Challenger has great strength, powerful ply adhesion and low permanent stretch but it is also properly flexible and resilient. It runs smoothly over all pulleys, reducing slippage to a minimum with its close-gripping friction surface. It maintains even tension, withstands severe shocks and strains and is uniform in quality, foot after foot, over any length. Specify Challenger on your next order for transmission belting and profit by its exceptional performance.

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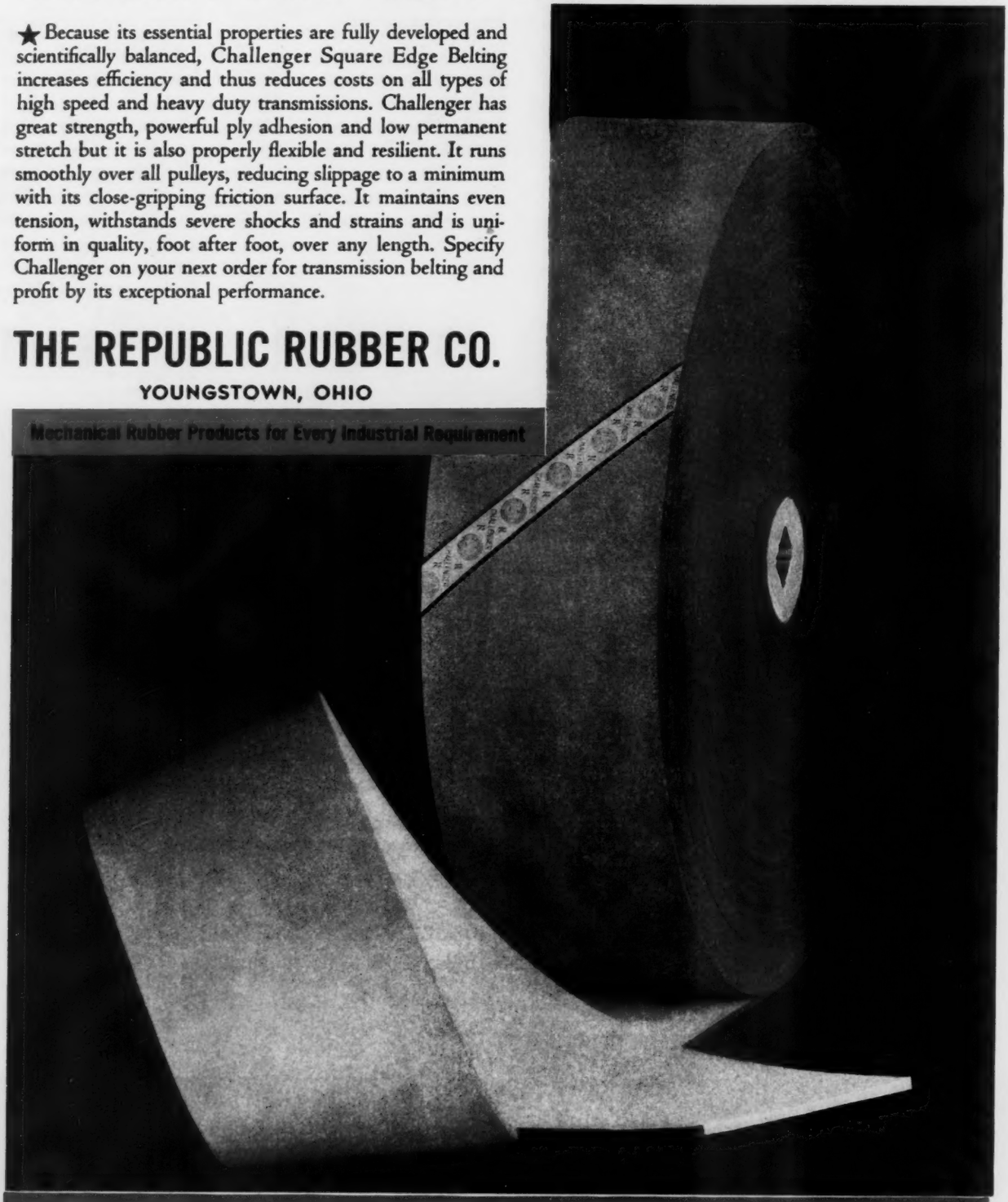
YOUNGSTOWN, OHIO

Mechanical Rubber Products for Every Industrial Requirement



ORDER REPUBLIC RUBBER PRODUCTS FROM YOUR DISTRIBUTOR

SAID THE EDITORS OF COTTON

in commenting on exhibits at the Greenville Show where the REEVES Spinning Frame Drive was displayed:

"New and improved variable speed drives for spinning and other equipment were a high spot in the power transmission exhibits, indicating the increased interest of mills and reflecting the recognition of manufacturers of the demand for intelligently developed and applied drives."

● The demand for fundamentally improved Spinning Frame Drives resulted in *automatic variable speed regulation* . . . The REEVES Variable Speed Spinning Frame Drive introduced *entirely* new standards of spinning frame performance.

Developed from more than 38 years' experience in speed control engineering in the textile industry, this compact Drive has proved sound in principle and basic design. Three years of *actual mill tests* are behind additional improvements which make it vibrationless, long-lived, subject to minimum maintenance. . .

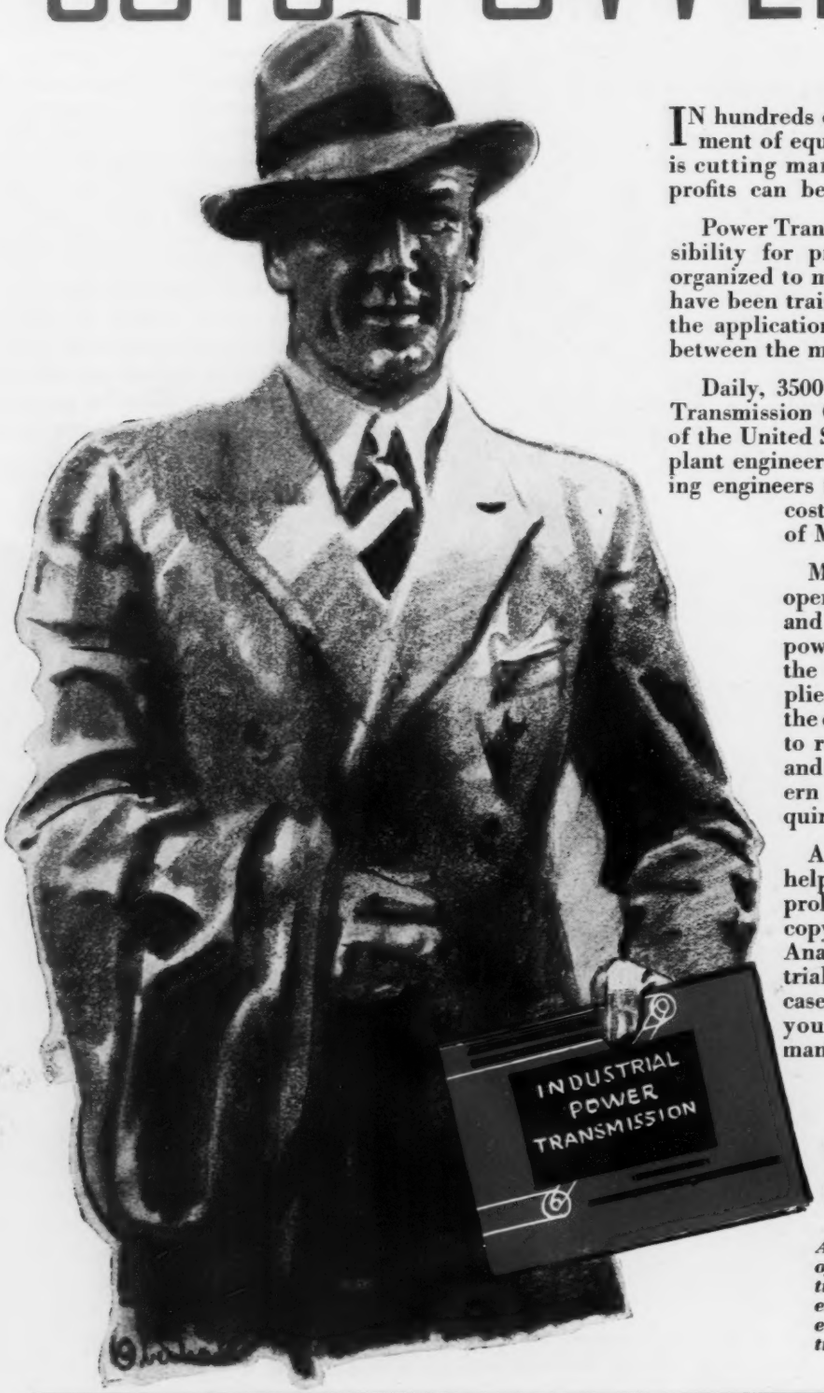
Advantages: uniform tension and twist —more uniform yarn size—greater elasticity of yarn—fewer ends down—higher breaking strength—larger packages—firmer bobbins—increased production. Furnished with tight and loose pulleys for belt drive or with adjustable motor base for individual motor with multiple V-belt, short-center flat belt or chain drives. Automatic controls for filling, combination or warp build. Easily applied to old as well as new spinning and twister frames. Write for complete description and performance facts.

REEVES PULLEY COMPANY
COLUMBUS, INDIANA

● Illustrated: latest model REEVES Spinning Frame Drive with adjustable motor base and V-belt drive.

Look to REEVES for Accuracy in Speed Control

THE POWER TRANSMISSION COUNSELOR CUTS POWER COST



IN hundreds of plants, modernization or re-arrangement of equipment, completed or now in progress, is cutting manufacturing costs to the point where profits can be made under present-day conditions.

Power Transmission Counselors accept the responsibility for promoting this revolution. Specifically organized to meet the new economic conditions, they have been trained to analyze every source of waste in the application of power. Their scope of action lies between the meter and the machine.

Daily, 3500 of these men, members of 60 Power Transmission Clubs located in the industrial centers of the United States and Canada, are cooperating with plant engineers, public utility engineers and consulting engineers to help industry reduce its production costs through the conscientious application of Modern Group Drive principles.

Modern Group Drive, a product of cooperative industrial research, has been tested and proved under all kinds of industrial power transmission conditions. It is today the logical answer, wherever it can be applied, to high production costs. It utilizes the diversity of loads on numerous machines to reduce the total power required by all, and uses that power most efficiently. Modern Group Drive meets F. H. A. loan requirements.

Ask a Power Transmission Counselor to help you, without obligation, analyze your problems. First, however, send for a free copy of the famous Red Book, "A Practical Analysis of Some Fundamentals of Industrial Power Transmission", based on actual case studies in many industries. It will give you new ideas about saving power in manufacturing.

POWER TRANSMISSION COUNCIL
1 Atlantic St., Stamford, Conn.

A research association of producers and distributors of power, power units and mechanical equipment for the transmission of power

MODERN · PTC · GROUP · DRIVE

A POWER DOLLAR SAVED IS A PROFIT DOLLAR EARNED

Condor Compensated

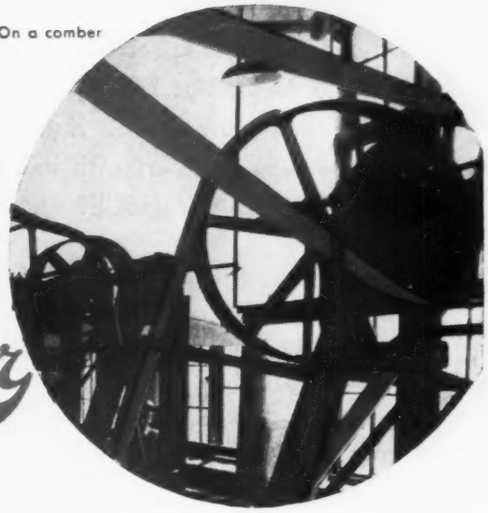
BELT

MAKES POWER SAVINGS

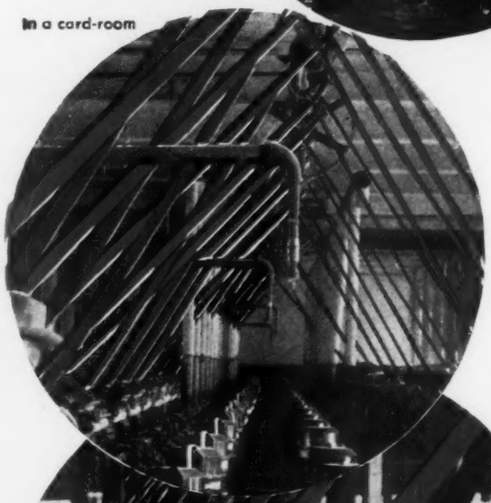
ON ALL TYPES OF TEXTILE DRIVES

On a spinning-frame

On a comber



In a card-room



Condor PRODUCTS

V-Belt
Transmission Belt
Cone Belt
Air Hose
Acid Hose
Water Hose
Fire Hose
Steam Hose
Suction Hose
Molded Rubber Goods
Oilless Bearings
Hard Rubber Pot Eyes
Rubber Lined Tanks
Rubber Covered Rolls

Another card-room drive

On the varying types of drives found in the textile field, Condor Compensated, the low tension rubber belt with equalized ply stresses over pulleys, has amply demonstrated its efficiency, economy and dependability. . . . Twelve outstanding advantages over standard rubber belting cause a rapidly growing number of manufacturers who are determined to get maximum operating economy, to specify Condor Compensated. It handles peak loads without slip, holds fasteners three to four times longer, does not stretch, shrink, and plies do not rupture because they are equalized. . . . The installations shown are typical ones in the textile field. A trial will convince you.

Sold by leading jobbers

THE MANHATTAN RUBBER MFG. DIVISION
OF RAYBESTOS-MANHATTAN, INC.

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70th Year Blue Book

Davison

Standard Textile Publications Since 1865

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Republic

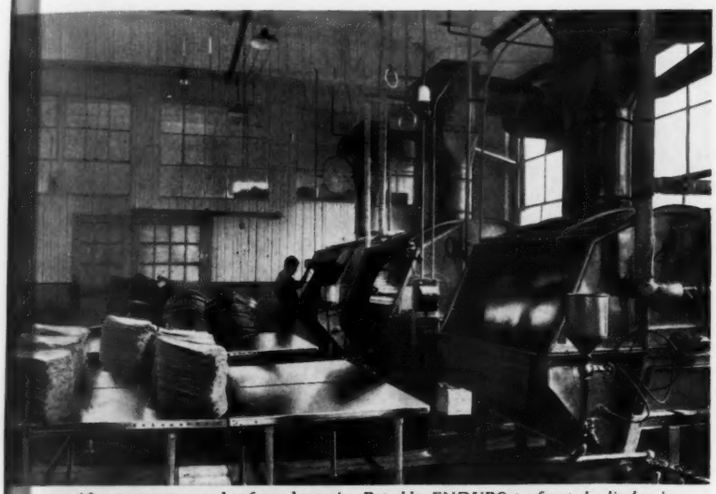
ENDURO
REPUBLIC'S PERFECTED STAINLESS AND HEAT-RESISTING STEELS
Licensed under Chemical Foundation Patents Nos. 1316817 and 1339378.

THE METAL THAT COMBINES

the immunity of glass . .

the strength of fine steel

the true color of porcelain



After seventeen months of steady service, Republic ENDURO perforated cylinders in rotary dyeing machines remain free from corrosion and discoloration.

Yarn box with false bottom, slide and drawer of Republic ENDURO.

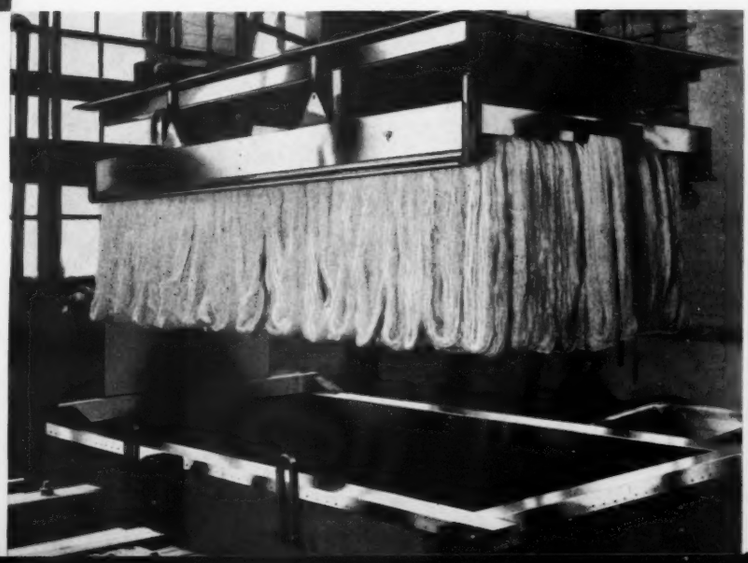
Republic ENDURO Stainless Steel truly is a remarkable metal. It is completely resistant to the acids, acid fumes and alkalies at the temperatures used in the various processes employed in the Textile Industry. It does not corrode or oxidize. Neither does it stain or show the detrimental discoloration of other metals.

ENDURO cleans like glass and retains its shining finish for life. Quick changes of colors are made possible without danger of "off shades". Flushing with water is all that is necessary.

And ENDURO is stronger than ordinary steel. Its hard, smooth surface is resistant to wear, abrasion, denting and scratching. It can be used with the sheerest of silks without danger of chaffing or pulling. Strong and tough as it is, Republic ENDURO is ductile and easily workable. It can be bent, formed, deep drawn, cut, punched, drilled, machined, riveted, soldered and welded.

In the dyeing of various fabrics, Republic ENDURO is as true as porcelain in maintaining color. A demonstration appears on the following page.

These dye racks and sticks are made of Republic ENDURO Stainless Steel.



REPUBLIC STEEL

Republic Steel
CORPORATION

GENERAL OFFICES · · · YOUNGSTOWN, OHIO
CENTRAL ALLOY DIVISION · · MASSILLON, OHIO

REPUBLIC

ENDURO

FOR COLORS TRUE AS IN PORCELAIN

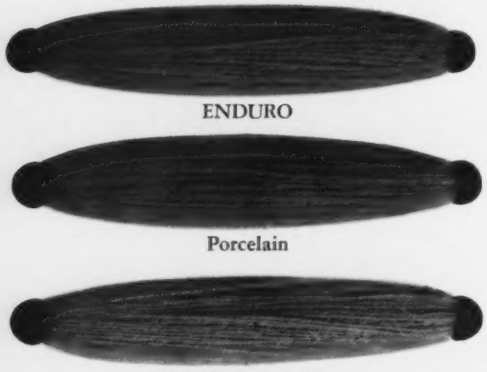
1% ERIO CHROME GREEN H. K.—99 (C. I.)

ENDURO

Porcelain

Non-ferrous Alloy

1% CALCOCID GREEN B CONC.—5 (C. I.)



ENDURO

Porcelain

Non-ferrous Alloy

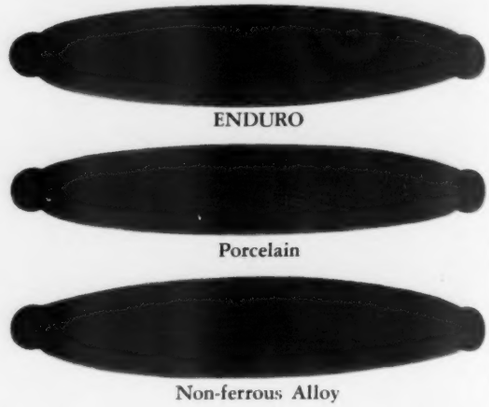
Realizing that, in general, dyeing and bleaching operations encounter corrosion problems of the most serious nature to the textile producer from a basis of cost and quality, Republic Steel Corporation made an extensive survey giving such operations special consideration. As a result, Republic is prepared to recommend the most satisfactory and economical type of ENDURO Stainless Steel for wool dyeing, where sulphuric, acetic and formic acid solutions are used in the dye bath; for the dyeing of cotton, silk and rayon, where acid solutions are not as great or where the condition is alkaline; for handling bleaching solutions; for stripping baths; for ageing solutions; and for types of equipment used in all other operations in the Textile Industry.

ENDURO is immune to the action of solutions used in the industry. It will not corrode in the atmosphere of the dyehouse . . . does not react with the dye stuff to develop "color effects" . . . is not soluble in the sodium nitrite and sulphuric or hydrochloric acids of developed or diazotized colors . . . is not injured by vat or sulphur colors. ENDURO does not cause any acceleration in the decomposition of peroxides bleaching baths. It will withstand the corrosive action of hypochlorite solutions. It is completely resistant to hydrosulphite stripping baths, and it can be used for both acetic acid and sulphite ageing installations in cotton processing.

Look at the comparative dye tests on this page showing sample dyeings using acid and acid chrome colors in porcelain beakers with ENDURO and non-ferrous alloy inserts. And note this fact—that ENDURO maintains the true color of the porcelain dyeing.

Write and tell us the nature of your business and the types of equipment you use. We'll be glad to send you further information, samples and literature on ENDURO Stainless Steel.

5% ERIO CHROME BLACK T—203 (C. I.)

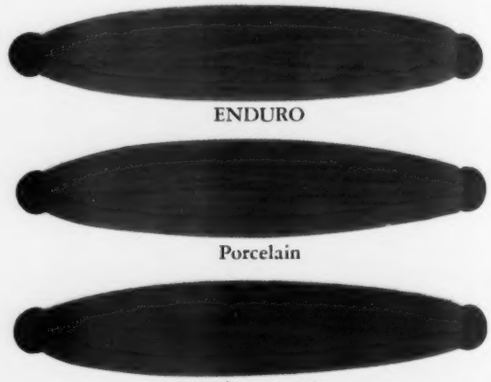


ENDURO

Porcelain

Non-ferrous Alloy

1% CALCOCID PHLOXINE 2G



ENDURO

Porcelain

Non-ferrous Alloy

REPUBLIC STEEL

Republic Steel CORPORATION

GENERAL OFFICES · · · YOUNGSTOWN, OHIO

CENTRAL ALLOY DIVISION · · MASSILLON, OHIO

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Vol. 99
No. 10

COTTON

October,
1935

Textile Conditions Experience Marked Improvement as Fall Arrives

Mills are much encouraged in the face of restrictive legislation and other adverse factors . . . . . .

Comments on processing tax developments, the Wagner bill and other industrial legislation, including the trend toward more and bigger taxes . . . . . .

IN SPITE of the barriers already created by restrictive legislation and despite the threat of even more radical governmental regulation proposed in measures awaiting Congressional action in January, the cotton-textile industry has shown some decided improvement since Labor Day. Some progress was even made in August, as shown by the fact that total cotton consumption showed an increase of nearly 17,000 bales over July, and total active spindle hours were approximately 300,000,000 in excess of the July total. Average spindle hours per spindle in place were 185 in August as compared with 171 in July. And general reports indicate that the improvement during September was even greater, as far as volume of business is concerned, though prices are still far from satisfactory. However, there is some encouragement to be derived from the fact that prices remained firm and in some cases, advances were made, in spite of the bearish influence of raw cotton prices.

Sales Note Clause Helps

The rather general adoption of the sales-note clauses recommended by the cotton textile merchants and approved by several groups of buyers and sellers, has served to remove, to some extent, the log-jam created by the unsettled question as to the constitutionality of the processing taxes. Following the Court of Appeals decision in the Hoosac Mills case, and the enactment of the AAA amendments during the closing days of the recent session of Congress, the government, apparently, became more strict in the granting of extensions on tax payments, with the result that practically all mills found it necessary to secure court injunctions and restraining orders to avoid making the tax payments, due on August 29th (and subsequent payments), pending a final decision in the Hoosac case.

Basing its action on the refund procedure provided by the AAA amendments, the government has moved to dissolve all the injunctions granted to the taxpayers by the Federal courts, and while there have been hearings in some of the states where these suits were filed, there have not yet been decisions to indicate what the general policy of the courts shall be with respect to maintaining the injunctions. It now seems probable that the U. S. Supreme Court, which will re-convene on October 7th, will hasten consideration of the Hoosac Mills case so that a decision may be rendered before the end of the year.

The Wagner Bill

Though Congress failed to appropriate funds with which to administer the new (Wagner Connery) National Labor Relations Act, the government has proceeded with the establishment of the machinery for carrying out the provisions of the law. Administration of the law will be directed by a National Board composed of J. Warren Madden, Chairman, John M. Carmody, and Edwin S. Smith. Actual investigation of complaints and prosecution of alleged violations of the law will be handled by Regional Directors and Trial Examiners under Rules and Regulations promulgated by the National Labor Relations Board on September 14th. Because of the widespread doubt as to the constitutionality of this law, the government is, apparently, moving with extreme caution in enforcing its provisions, in order that a court test may be delayed as long as possible. In a recent report entitled "New Deal Laws in Federal Courts," published by the American Liberty League, a large group of outstanding attorneys of national prominence and recognized ability, expressed the unqualified opinion that this law is plainly unconstitutional. Therefore, a test of the validity of the act may be expected as soon as enforcement of its provisions is attempted. With their usual blatant disregard of facts, the textile unions have filed charges against some fifteen or twenty textile manufacturers, alleging violations of the Labor Relations Act, but so far there have been no hearings in any of these cases.

Social Security

The last minute controversy over the government's cotton loan policy also prevented congressional appropriation of funds with which to administer the new Social Security Act, but since it will take at least a year to set up the necessary machinery, the functioning of this New Deal law will not be materially handicapped, for Congress will doubtlessly provide adequate funds early in the next session. A Federal Security Board composed of John G. Winant of New Hampshire, Arthur J. Altmeyer of Wisconsin, and Vincent Morgan Miles of Arkansas, will administer the act. Because of the heavy payroll taxes provided by this law, it is probable that a test of its constitutionality may reasonably be expected.

More and Bigger Taxes

During the last mad days of the session that ended late in August, Congress, in an abortive effort to convert the President's "share-the-wealth" tax program into a revenue-raising measure, failed miserably to do either, but enacted the Revenue Act of 1935 which is negligible as far as its revenue producing capacity is concerned, but which is vastly important because of three new principles of Federal taxation which it establishes; namely:

1. It makes an effort to discourage (and prevent) "bigness" in business, by levying a *graduated* tax on corporate income.
2. It places a limitation upon the earning capacity of business through an excess profits tax (supplemented by a capital stock tax).
3. It attempts to discourage (and prevent) industrial holding companies through a tax on intercorporate dividends.

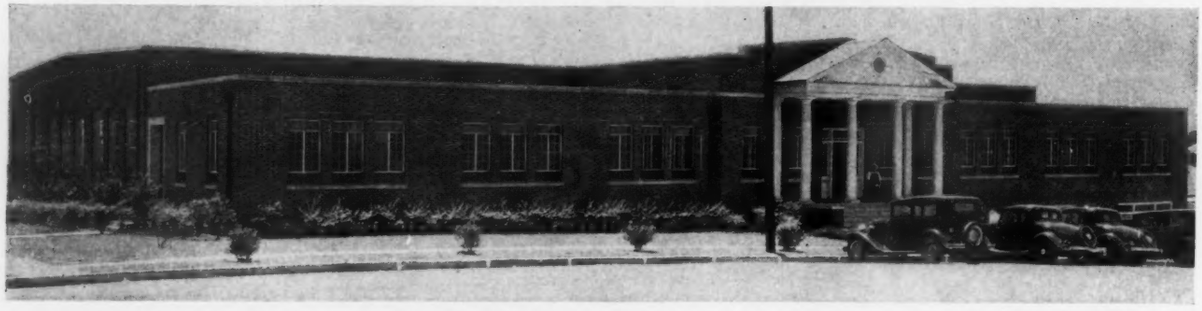
And while the tax rates involved in some of these new principles are not particularly burdensome *now*, there is very

grave danger that future legislation may increase these rates to a confiscatory basis. Once these principles have been established by law, there is no limit to which the rates may go. The main provisions of the new tax law may be summarized as follows:

1. A graduated tax on the net income of corporations, at rates ranging from 12½% on incomes of $2,000 or less, to 15% on incomes in excess of $40,000. (Applicable to taxable years *beginning* after December 31, 1935).
2. Excess profits taxes on corporation incomes, at rates ranging from 6% on net income of over 10% and not over 15% of adjusted declared value of capital stock, to 12% on net income in excess of 15%. (Applicable to taxable years *ending after* June 30, 1936).
3. A Capital Stock Tax at the rate of $1.40 per $1,000 of adjusted declared value of capital stock. (Applies for each year ended June 30, beginning with the year ending June 30, 1936).
4. A Tax on Intercorporate Dividends, on 10% of such dividends at the regular corporation tax rates. (Applies to taxable years *beginning* after December 31, 1935).
5. The so-called "nuisance" taxes have been continued and certain administrative provisions were enacted with respect to liquidating dividends, charitable contributions, penalties, etc.

The President's magnificent gesture with respect to providing a "breathing spell" for business, admitting the period of "strangulation" to which business has been subjected under the New Deal, also implies that a renewal of restrictive and regulatory policies may be expected—probably when Congress reconvenes in January, 1936. Therefore, with that ordeal facing American industry and with a national political campaign involving the fate of the New Deal impending in the Fall of 1936, it may be expected that political expediency will continue to be the dominant influence in the several factors that will govern the economic recovery—or recession—of business in general and in particular.

Views of the Callaway Vocational School and Laboratory at LaGrange



An exterior view of the building at Callaway Mills, LaGrange, Ga., which houses the vocational school, the personnel and employment departments, and the mills' central testing laboratory. The vocational school, operated for the employees of the mills, and the personnel and employment program were described in a special article in the June 1934 issue of COTTON . . . . . .

One of the vocational school classrooms

A view of the "mill" section of the school

The views above illustrate the Callaway vocational school, where employees in all divisions of the company are trained along vocational lines . . . . . At the right, a view of the modern central testing laboratory operated for the mills of the Callaway group, which is located in the basement of the vocational school building . . . . . .

Georgia Mill Men Discuss Slashing and Weaving at Atlanta Meeting

THE discussion on slashing and weaving problems which featured the regular meeting of the Textile Operating Executives of Georgia on Saturday, September 28, was of high practical value and covered topics of timely and definite interest. In addition, as always, the discussion served the further purpose of stimulating greater thought among the mill men concerning their individual problems, and was thus provocative of greater efficiency and deeper thought on the part of the men upon their return to their respective mills.

This meeting, attended largely by Georgia superintendents and overseers, with visitors from neighboring states, attracted an attendance of more than 200 men. Officers for the coming year, elected by the executive committee, were J. C. Edwards, general superintendent, Martha Mills of The B. F. Goodrich Company, Thomaston, Ga., General Chairman; V. J. Thompson, superintendent, Manchester plant of Callaway Mills, Manchester, Ga., Vice General Chairman, succeeding Mr. Edwards. Robert W. Philip, Editor of COTTON, was re-elected secretary--treasurer. Mr. Edwards presided at the meeting, as R. D. Harvey, retiring general chairman, was unable to attend. C. K. Cobb, superintendent, Canton (Ga.) Cotton Mills, was elected as a member of the executive committee for a full term of 2½ years, succeeding V. J. Thompson, whose term on the committee expired with this meeting.

The meeting was opened with a helpful, inspirational talk by Morgan Blake, sports editor of the *Atlanta Journal*, following which the delegates made an inspection tour of the textile school of Georgia School of Technology, where the meetings of the organization are regularly held.

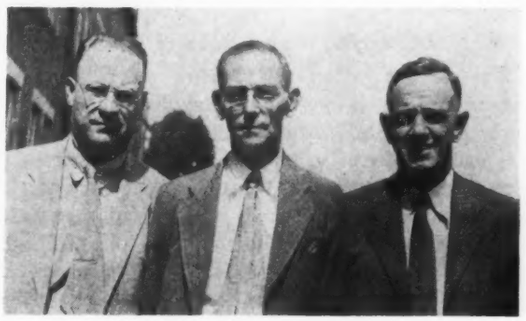
The next feature was the practical discussion of subjects pertaining to slashing and weaving, this constituting the chief part of the organization's meetings. These discussions are based on a questionnaire prepared and distributed in advance. V. J. Thompson of Manchester led the slashing discussion, which was started with the question:

Removing Hoods from Slasher Cylinders

"We understand some mills have removed the hoods from over the slasher cylinders, and would like to know the reasons and results; also what method is used for ventilating the room, and removing the steam or vapor naturally arising when the warp passes over the cylinder?"

Allen Jones of Muscogee was first called upon, reporting that "we had some old type slasher hoods on some of our slashers that needed replacing. We also had ventilating fans in the ceiling, and we took off the old hoods and thought we would try running these slashers without hoods, and we find that so far they work very satisfactorily with the ventilating fans over them. We do not have any dripping from condensation, and the machines are easier to clean. I do want to say our slashers are on the top floor of the mill, so that the ventilating fans take the steam out through the roof. Last winter with a cold roof we did not have any trouble from dripping at all."

Frank L. Asbury, Jr., superintendent, Hillside plant of Callaway Mills, LaGrange, was called upon, and said he uses hoods but he had seen another mill—at Sylacauga, Ala.—where the hoods had been removed. At Hillside, he continued, "we originally had wooden hoods, and had a lot of trouble with stains on the warp, and then we put in galvanized hoods with a large fan, and later we put in copper hoods with a hood for each slasher cylinder, the hood going over the big cylinder and the size box, and with an impeller type fan for each slasher. The hood extends a little over the small cylinder but doesn't cover it; there is not much steam on the small cylinder."



THE MEETING LEADERS

A snapshot showing, left to right, V. J. Thompson, J. C. Edwards, and Allen Jones, at the Georgia meeting. Mr. Thompson, the new vice-chairman, led the discussion on slashing; Mr. Edwards is the new general chairman; and Mr. Jones conducted the weaving discussion . . . . . .

A. D. Elliott, superintendent, The Trion (Ga.) Company, reported that all of his slashers have hoods, and the nearest approach he has made to removing them is that at the end the hoods are hinged, and "at certain times we find it is a good idea to lift them up a couple of feet; that helps in the drying and prevents condensation." Julian M. Longley, assistant superintendent, The Dixie Cotton Mills, LaGrange, reported the use of individual hoods over each cylinder with ventilators in the roof that are manipulated by wind current.

Boyce Mangum, assistant superintendent, Avondale Mills, Sylacauga, the mill mentioned by Mr. As-

---

Reported by Robert W. Philip

bury, reported that "about two years ago our slasher cylinders were getting in bad shape, and during last year we couldn't get enough exhaust to keep the machines cleaned. It was just a question of cleanliness, and we decided to take off the hoods from over the cylinders, leaving the ones over the size boxes. This increased the exhaust and we eliminated our breakbacks on the cylinders, and found that the room was no hotter than previously." Answering questions, he said they were not troubled with sweating down; that they use an exhaust system throughout the room, with the air coming in at the upper windows, and, with heat tending to rise, the exhaust carries the heat away. His slashers are not on the top floor.

Lloyd H. Rice, general superintendent, Alabama Mills, Inc., with ten plants, reported that "we have one mill where we found the hoods had all been taken off of the cylinders. I didn't know just how long they had been off, or why it was done, but we found that the ceiling was rotting out and we had to replace some of the beams and flooring and decking, and we immediately put the brass hoods back over the cylinders."

Mr. Mangum reported that another of the Avondale Mills, at Alexander City, had taken off copper hoods from over their slashers; that this mill has the advantage of having the slashers on the top floor of the mill so that the steam can go out through the skylights.

Changing Slasher Squeeze Rolls

The next question was: "How often should the squeeze roll be re-covered in regular slasher operation? Do you remove slasher cloth from rolls over the week-end and leave in water; if so, why? Does this increase the life of cloth? In putting on new cloth, do you put the new cloth on top, or underneath with the old cloth brought to the surface? Why?"

H. J. Reid, overseer weaving, Scottdale Mills, Scottdale, Ga., reported they cover the squeeze roll every 10 days, running on osnaburgs, 7s to 13s warp; they do not remove the cloth on the week-ends; when they put on new cloth they put the old cloth over the top, "because it has a tendency to squeeze it out better and the cloth lasts much longer." Underneath, he uses a plain sheeting painted on with white lead.

Reporting for C. K. Cobb, D. E. Dunwoody of Canton stated that "the average life of our slasher cloth, on the top blanket, is 40 hours. We use a 70 per cent wool blanket, 2½ yards, and we put it on top because it gives better results; we run colored work and the caustic eats up the wool. We use a 4.00-yard sheeting, with 4 yards of composition cloth, 70 per cent cotton, for a cushion. This cushion lasts about 4 months, and the sheeting lasts much longer, from 8 to 10 months. We trim the blanket two or three times, and sometimes it is necessary to cut off a round. We do not remove the blanket over the week-end; we roll off about a yard on Monday morning and wet this for about an hour as this helps the feel of the yarn when we start up. We put the new blanket on top because the old one is eaten up by the caustic, and we would not get as uniform a squeezing if it was on top."

"We re-cover about every two weeks, 80 hours, on white work," reported Johnston McCorkle, superintendent, Hartwell (Ga.) Mills. "We first put the blanket on the back roll, and on top of that we run about five yards of sheeting, and then when we change it we put that blanket on the front roll and put the old blanket on top of it." Answering a question, he said he uses the sheeting on top because he does not want to put a brand-new blanket back there by itself; and that he uses the blanket as a sort of cushion.

B. E. Willingham, assistant overseer of weaving, Lanett Mill, was asked to give his experience when at Fulton Bag, and said his slasher cloth had lasted 30 days on 60-hour week. "I never did make up my mind just how often cloth should be put on next to the roll, because every time I took them off they were rusted and I was satisfied that I didn't get them off soon enough. We put on a 3-yard blanket and trimmed it down to 1½ yards and then we put on a new blanket and put this 1½ yards on top in order to have a uniform squeezing all the time. If we put a new blanket on top it would leave more size in the warp. I did take off the blankets and soak them over the week-end; it left them more pliable on Monday. They get hard if they stay on; you cannot wash them on the roll and make them pliable enough again."

"We do not take our blankets off over the week-end," reported A. C. Smith, overseer weaving, Monroe (Ga.) Cotton Mills. "We use a 16-ounce blanket, about 7 yards, on the back roll, so we will have a new blanket on the back roll; we get better results putting it on the back roll until it is set, and then moving it. I have never had any experience with washing the blankets. We put the old blankets over the new one if we have any left."

Speeds of Slashers

"What do you consider is the proper speed for your slashers? State yarn number, number of warp ends to set, whether you have temperature control equipment, etc." This was next asked.

F. L. Daniel, of Columbus (Ga.) Mfg. Company, reported a maximum speed of 35 yards per minute, on 25s warp, 2,500 ends. He has temperature controls on the size box and cooking kettles, but not on the cylinders. J. I. Alford, assistant superintendent, Covington (Ga.) Mills, reported 60 yards a minute on a light warp of 30s, 1,980 ends, 44 ends per inch; and 35 yards a minute on 30s with 3,186 ends, 76 ends per inch. He has controls on kettles and size box, none on cylinders. J. C. Platt, agent, Aragon (Ga.) Mills, reported 30 yards a minute on 30s, 3,700 ends, with no controls, carrying 6 pounds pressure. He brought out that the lower the number of ends, the faster the slasher speed, and vice versa.

Charles Walker, overseer of slashing, Pepperell Mfg. Co., Lindale, Ga., reported a slasher speed of 27 yards a minute on denim and similar warps; 30 yards on chambray and like warps. One slasher room is equipped with controls throughout, the other not. Answering questions, he said the subject of controls on slashers is quite a large one, but that he does consider the investment worthwhile; it will absolutely control, and you know you have the same temperature all of the time.

Reporting for T. W. Haddle, of Douglasville, J. W. Balentine stated they run about 30 yards a minute on 2,626 ends of 24s, and 29 yards a minute on 21½s warp. They have temperature controls on size boxes, none on cylinders.

A slasher speed of 65 yards per minute on a light set running as low as 483 ends was reported by Harry H. Purvis, superintendent, Chicopee Mfg. Corp., Gainesville, Ga., referring to 30s yarn. On sets of 3,200 ends of 30s, he runs 35 yards a minute. Controls on size box and kettle, but not on cylinders. He said that once he was able to cut the speed on the light sets to 50 yards a minute, but noticed no appreciable difference in the warps in the weave room.

Reporting for Manchester, Chairman Thompson stated that "our warps run from 2½s to 30s; on the coarser yarns we run 15 yards a minute, and on the finer warps up as high as 30 yards a minute. We have controls on everything. I think these controls are one of the best things you can put on a slasher; at least you have a chart and can go by and look at it and see what is being done. We do not ever change the amount of heat, but we change the speed of the slasher. We try to keep about 6 per cent moisture in the warp; that is what regulates the speed. We carry 240 degrees on the big cylinder and 230 degrees on the small cylinder. Sometimes we have 15 pounds of steam, and sometimes 3 pounds." He runs 2 000 ends on 2½s and up to 6,000 ends on the finer yarns. Julian Longley asked within what limits Mr. Thompson controls the moisture variation in the yarn, and the reply was that some time ago, tests on one slasher showed the moisture content varying from 3 to 4 per cent, but that with the controls "we find we get less variation, and we get a more uniform size on the yarn."

Answering a question from H. W. Bice, of Fulton Bag, Mr. Purvis stated that he uses scallop boards on his extremely light sets to prevent the yarn from rolling. The sets are divided back of the slasher and sections run in half-moon shaped grooves in a board, which bunches the yarn and prevents rolling and also prevents "stealing" from one set to another. Barney R. Cole described a method he had recently seen using two small lengths of old spinning cylinders, placed about 18 inches apart, below and above the sheet of warp, between the size box and the top of the big cylinder, which the mill man told him would prevent rolling.

The new Saco-Lowell stretch control for slashers was discussed briefly by Herbert C. Roberts, of Philadelphia, who had seen one in operation. He said it is possible to feed the yarn into the slasher and control the stretch to within ¼ to ¾ per cent, with this device. No one else present had seen the new equipment.

Variation in Cuts in Slasher Set

"What variation in number of cuts or yards, from various sets, should be expected?" was the next question, which asked also for the causes of such variation. A. D. Elliott of Trion, who had asked the question, explained that he had found an excessive variation in the total number of cuts of the same style from different slashers and from the same slasher, running from 148 to 150 cuts in a 10,000 yard set of 8s; from 397 to 400 cuts in a 26,000-yard set of 25s; and from 460 to 467 cuts from a 30,000-yard set of 32s. He concluded most of this variation came from the yarn being stretched more at one time than another; that some of the causes of the stretch could be that there is more tension in the creel at different times; that sometimes, in changing to a heavier set, more covering might be put on the front roll and not removed in going back to a lighter set. "The interesting thing to me," he said, "is that if you watch it for a while you can almost tell a slasher man, from these figures, whether or not he ran a warp with excessive stretch."

"We check up our slashers for stretch," reported R. J. Jennings, assistant superintendent, Lanett Mill, "and here is what we found in a few tests we ran recently. On a 13,000-yard set we gained 1½ cuts,

R. D. HARVEY, superintendent, Pepperell Mfg. Co., Lindale, Ga., retiring general chairman of the Textile Operating Executives of Georgia . . .

which figures .7 per cent, and then we ran the same style on another slasher and gained 3 cuts, which figures 1.4 per cent; we find it goes from .2 per cent to 1.06 per cent. As to the causes, sometimes the warpers get out of whack and give variation in the yarn on the section beams; then, the frictions on the slasher might not be the same. Occasionally, on light sets, you must put a little more weight on the section beams than you like to, to keep it from kinking up. If our stretch goes above 1½ per cent, we think something is wrong and start looking for it."

Answering a question from Mr. Thompson, Mr. Jennings said, "we put ball bearings in the creels on all of our slashers, and that helps to a certain extent; and we got a fiber washer and put it on the beam journals in the creel, which keeps the men from getting one beam tighter than the others." Asked how he measures stretch, he said this is done with yardage counters in front and back on the slasher.

Mr. Purvis reported tests showing variation running a little less than 1 per cent—200 yards in a 35,000-yard beam of 30s. He said that irregular tension between the split rod and headstock, and on the warper beams, are the chief causes of stretch.

"We are getting more stretch than these others," said Mr. Daniel of Columbus. "Most of our tests show between 2 and 4 per cent." R. P. Sweeny, superintendent, Exposition Cotton Mills, reported, on a set of 28,000 yards of 26s, 1,692 ends, the following results: 28,153, 28,108, 28,037, and 28,036 yards—an average of .1 to .6 per cent. On a 14,000-yard set of

(Continued on page 152.)

CURRENT TEXTILE TOPICS ....

Talk of the Month

ALL that the textile industry has wanted for many months is an opportunity to do business unhampered by government "co-operation" or interference. The first encouragement came in July and the two months since have created the best actual mill situation for a long time—in some departments for the period since the boom of midsummer in 1933. Whatever the stimulating force of the demand, it has been good.

Business encouraging, but "Breathing Spell" ominous

On the constructive side of the market, the figures of cotton consumption in August were significant of the real start toward better business by the mills during the summer. The gain over consumption for July was moderate, but this in itself was constructive as indicating a lack of undue haste in expansion which would have been disturbing to the stability of the market. The voluntary maintenance of code principles in the face of a demoralized market is one of the developments indicating that industry has learned the lesson of reasonable self-government.

Another lesson coming out of recent experience is the value of rigid curtailment when buyers are not ready to operate at any price. Instead of reverting to old practices of anticipating renewed activity by building up of stocks, the mills kept to orders on production in a way to repeat future benefit. The consequence has been a stringency of supplies when buyers wanted them. A corollary of this situation has been the ability of manufacturers to adopt a sound pricing policy at the start of an active marketing season, rather than to give buyers a continued whiphand through offering abundance of spot lots.

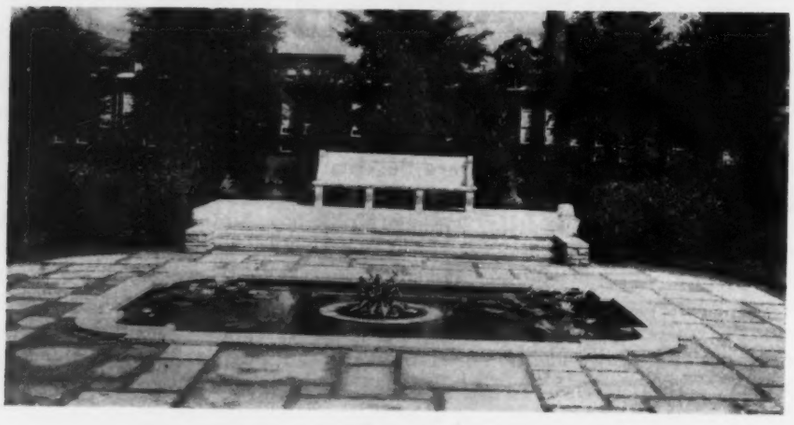
As stated by Thomas H. Webb, president of the American Cotton Manufacturers' Association, early in September, the mills were in a position to help themselves through control of production schedules. Even in September, after substantial spurts of business in goods, there was a healthy caution against rapid expansion. On the matter of prices, Mr. Webb said that "the mills have had such a disastrous financial experience in trying to operate during the first half of the year that there seems to be a firm resolve on the part of the leaders that they will market their goods for the rest of the year at no loss, if possible."

It may be that the Administration can take credit for the consumer spending power which has been developing in a way to foster activity of industry. There was however, a very much mixed general response to the President's pronunciamento of a "breathing spell" for industry. Sober appraisal left this sop to industry "as sounding brass and tinkling cymbal" so far as cotton manufacture is concerned. In reality it meant nothing, because if a "breathing spell" means a chance to do business, that was already felt irrespective of administration statement.

Rather the Administration expression of goodwill to manufacture had an ominous connotation for cotton manufacturers, reminding them that the future still carries its threat of adversity through regulation. For the time being the industry is enabled through accumulation of demand to secure a volume of business at improving prices. But it has long been manifest that a return of prosperity to cotton manufacture must come in spite of Washington. This holds true even in regard to legislation, as demonstrated in the need to seek relief under the judiciary from unconstitutional laws.

AAA officials have tacitly admitted that their cotton program had to be modified to save foreign markets, yet they overlook the destructive effects of their processing tax on the domestic market. There is an Administration movement on foot to investigate merchandising for the purpose of seeing if prices to

Memorial to LaFayette Lanier, II, at Langdale, Ala.



In a simple but impressive ceremony on the afternoon of Thursday, September 26, a beautiful memorial to the memory of the late LaFayette Lanier, II, was unveiled at Langdale, Ala. The memorial, a pink marble bench facing an attractive fountain and lily pond, as shown at the left, was conceived and [illegible] ns of Lanett, Langdale, Shawmut, Fairfax and River View, Ala., and West Point, Ga., where the mills and the offices of the West Point Manufacturing Co., of which Mr. Lanier was agent, are located. "Mr. L.," as he was affectionately known, passed away on September 16, 1930. He was a son of LaFayette Lanier, founder of the mills in the "Valley", and a brother of George H. Lanier, present head of the organization.

the retail consumer of textiles cannot be reduced. It is help the consumer, help the farmer and help anybody but the manufacturer.

And yet, the producer is the creator of real wealth. If he must operate unprofitably he must quit. The AAA processing tax, if it can continue to be enforced, means unprofitable mill operation unless the retail market can be lifted to much higher prices. Unprofitable mill operation means liquidation and loss of employment. How can the demand for cotton be stimulated by forcing mills to close and workers to lose positions? How can the farmer be helped by destroying his markets? And again, how pay the taxing piper if private industry does not pay?

Modification of the cotton program, giving the mills an opportunity to get their staple at a more reasonable price, has contributed something to the improved situation beside volume of goods business. Firm goods prices after the adjustment helped manufacturing margins. Through September the buyers of fabrics were still operating, however, with the test of constitutionality of the AAA processing taxes lingering in the back of their minds. They were looking forward to this test being made during October, with some consequent temporary disturbance to the market if the ruling of the Circuit Court of Appeals in Boston on the Hoosac Mills case should be upheld by the Supreme Court.

New England Mill Situation

COTTON manufacture in the New England district is in a paradoxical state, with business picking up, but prominent mills in labor or other difficulties which hamstring them. There is considerable confusion of conditions at the time of writing, which may be cleared up in good part before publication of these columns. But the industry is very much in a condition of uncertainty over the outlook, with some units for the present operating in a tentative way to take advantage of the active business existing and reserving announcement of plans for the longer future.

Amoskeag Manufacturing Company of Manchester, N. H., the largest textile unit of its kind in the world, has come by the latter part of September to an almost complete inactivity. The selling agents of the concern, George A. Sloan & Company, were the first of those leaders in the industry to enunciate the principle that "those connected with the industry have a responsibility in putting their manufacturing units on a sound basis" and therewith announcing (late in August) an increase of prices because these were still on a loss basis in spite of previous slight advances.

Meantime Governor Bridges of New Hampshire had made a prophecy that the great plant might be closed in a few months, possibly bringing the city of Manchester close to bankruptcy and injuring the State itself. Almost simultaneously the governor's textile investigating committee started its work of studying conditions, with the aid of influential business men in the textile communities of the State. Subsequently the negotiating committee of the Manchester textile council was authorized to meet with the governor's group on ways and means by which the Amoskeag might be perpetuated. Yet the crisis continued and the latest word was that something important might be forthcoming from the annual meeting on October 2 of Amoskeag stockholders.

Some explanation of this crisis is found in the annual report by Russell H. Leonard, president and treasurer of the Pepperell Manufacturing Company. This company like the Amoskeag has been raising prices since mid-summer and it is said to be in the best position since the boom of 1933. Yet Mr. Leonard makes a gloomy forecast for the New England cotton industry in his report on the record for the year ended June 30, 1935, of which he said the "operating results prove typical of the industry as a whole for the same period."

In the face of the largest volume of sales in its 83-year history, the company's net sales for 1934-1935 of $28,986,082.12 were accompanied by an operating net loss of $438,062.82. "During the past winter," Mr. Leonard notes, "a great deal was said and even more written about the industrial problems of New England and the inability of its manufacturers to compete with those of some other sections of the country in the production of cotton textiles. It is certain that they cannot compete indefinitely unless the total costs, including labor, are on a competitive basis. The solution of the problem lies with the people of New England."

Mr. Leonard states that "there is a large group of public officials who understand the problem, but who hope that some painless and magical cure can be found." The mills in some cases are bringing the community to time in one important matter—municipal taxes—as they have been doing with the Federal government by wholesale in the matter of processing taxes. The communities have been aroused for a year over the mill situation, but relief for mills so far seems to have come only by recourse to the courts, as in the case of a Rhode Island unit recently cited. Subsequently the Lockwood Company, of Waterville, Me., issued that city an ultimatum demanding a reduction of taxes under threat otherwise of liquidation.

There is an inescapable obligation on the part of labor in the general crisis and various efforts are being made to reach an accord with the workers. The Hathaway of New Bedford recently had accepted by spinners a proposal of new work assignments, on guarantee by the management of a change in working conditions. At the same time an uncertain situation existed in Fall River, with mills and workers both evidently concerned over wages while important units were running tentatively.

With regard to these mills in the balance, considerable depends upon the extent of the favorable business as well as the disposition of the processing-tax issue, labor relations and local conditions generally. It will take a very broad movement and sharp improvement of prices to assure wide operation of New England plants for the rest of the year. Then will still be faced national problems such as the Ellenbogen bill, together with continued local complexities, unless state and individual community interests create more favorable conditions.

COMMENT ON THE COTTON MARKET

New Orleans, September 20, 1935.

NOTWITHSTANDING the rising tide in the value of securities, due mainly to improving business conditions, and a forecast for a smaller American crop than was indicated last month, the cotton market assumed a downward trend during the past month. There were periodical temporary bulges in consequence of the smaller crop outlook and the better trade reports, but such spurts were met with realizing and hedging. The freer offerings were attributed mostly to increasing of the movement to market.

The first loan plan was a shock to the trade, values having declined sharply following its announcement, and although there was a material modification of the original plan subsequently, the change did not help the market much, nor did the unfavorable weather, especially in the eastern half of the belt, have much influence on values.

A feature of the market situation, of interest to the trade, was the passing of the discounts in distant deliveries, which now command a premium, improving the situation from a carrying point of view, which may lead to a better export movement. It is possible that the proposal for the making of a much smaller American crop next year, and reports that the present crop will average low in grade, was partly responsible for the disappearance of discounts and the establishing of premiums.

As to the European political situation, late press advices are of an unfavorable nature. The war clouds abroad were a disturbing influence. War is usually considered a bullish influence in the speculative markets, but the threat of hostilities developed some uneasiness, especially in Wall Street, which was reflected in the cotton market, as there is no telling what would follow should war be declared between Italy and Ethiopia.

While the official American cotton crop forecast, as of September 1st, pointed to a smaller crop by 309,000 bales than indicated as of August 1st—indications are that it will be larger than last year's production, or 11,489,000 bales versus 9,636,000.

Commenting on crop developments during August, Washington stated: "Most of the decline in prospects during August took place in Texas where the forecast is 384,000 bales less than a month ago, the result of excessive insect damage and continued dry weather. A reduction of 59,000 bales is shown for Oklahoma. Other states show only moderate changes from the August forecast".

TOTAL AVERAGE RAINFALL IN TEXAS IN INCHES

Year—	1935	1934	1933	1932	Normal
August	1.55	1.28	2.95	3.39	2.44
Nov. 1st to Aug. 31st	30.29	20.89	23.52	29.77	25.31

BRITISH BOARD OF TRADE REPORT FOR AUGUST

Year—	1935	1934	1933
Exports of yarn, pounds	12,100,000	10,000,000	11,000,000
Exports of cloth, yards	161,000,000	169,000,000	149,000,000

CENSUS REPORT FOR AUGUST

United States— Bales—	This season	Last season
Consumption of lint in Cotton Growing States	342,935	333,977
In New England States	52,505	72,742
In All Other States	12,970	12,222
In the United States	408,410	418,941
Mill stocks, July 31st	789,373	1,227,688
Mill stocks, August 31st	644,926	1,076,982
Stocks in public storage and warehouses, Aug. 31	5,892,836	5,823,939
Stocks in mills, public storage and warehouses, Aug. 31	6,537,762	6,900,921
Active spindles during August	22,046,652	24,181,776
Active spindles during July	22,312,384	24,417,778

AMERICAN COTTON

Sept. 20— Bales—	This season	Last season
Came into sight (marketed)	1,919,000	1,629,000
Exports from the United States, inc. Canada	453,000	558,000
Spinners takings, world	1,202,000	1,227,000
Stock at all United States ports	1,602 000	2,687,000

WORLD'S VISIBLE SUPPLY OF COTTON

September 20th— Bales—	This year	Last year
American	4,221,000	5,960,000
Other kinds	1,238,000	2,016,000
All kinds	5,459,000	7,976,000

Progress of the American Crop

Substance of Washington's weather and crop report for week ended September 17th: "The early part of the week was very unfavorable in the eastern states due to frequent rains, persistent cloudiness and coolness, but the latter part brought more favorable conditions. In western sections the weather was more favorable".

As to foreign cotton crops this year, late press advices indicate a larger production than last year. Brazil expects a crop of about 1,620,000 bales against 1,231,000 last year, and a considerable increase is anticipated in Russia. It is possible that other foreign countries may make larger crops.

The world's supply of cotton, however, may not be materially different this season than last season when it was 39,300,000 bales, since the probable increase in production this year may be offset by the reduction in the carry-over on August 1st, which was about 2,900,000 bales less than on corresponding day last year.

With prospects of a world's supply of all kinds about the same as last season, American growers have the benefit of obtaining 12 cents for all of this year's production not in excess of the allotment they may sell, providing they cooperate in the acreage curtailment program of next year.

WHAT THE SOUTHERN MILLS ARE DOING

PALMETTO Print Works have been organized at Greenville, S. C., for the general printing of cotton goods and dyeing and finishing rayon fabrics. It will be owned and operated by the Union Bleachery of Greenvile, and the Aspinook Company, of Jewett City, Conn. Four printing machines have been removed from the Aspinook plant, and installed at the Union Bleachery plant, and equipment for dyeing and finishing rayon fabrics will be installed at a later date.

A brick addition to the slasher room has been erected at the West Boylston Manufacturing Company, Montgomery, Ala. Batson-Cook Company of West Point, Ga., were the contractors.

Gainesville Cotton Mills, Gainesville, Ga., recently installed 60 new Whitin spinning frames.

Abbott circulating spindle winders have been installed by the Uxbridge Worsted Company at their Macon plant, Macon Textiles, Inc., Macon, Ga.

Approximately 20,000 square feet of additional floor space will be added to the bleachery of the Erwin Cotton Mills Company, West Durham, N. C.

A weave shed is to be erected at the plant recently acquired at Stony Point, N. C., by Killingly Worsted Mills.

Abbeville Cotton Mills, Abbeville, S. C., is discontinuing the manufacture of cotton goods and will produce rayon fabrics exclusively.

Gossett Mills, Anderson, S. C., have installed 108 new Draper looms for the manufacture of rayon fabrics in the Ladlassie plant.

Combers have been installed at the Superior Yarn Mills, Long Island, N. C., and the product changed from carded to combed yarns.

Phenix Mills, Kings Mountain, N. C., have replaced old weaving equipment with 130 Model Draper looms.

Union Cotton Mills, Monroe, N. C., have installed bunchless cleaning equipment and 12 long draft Whitin spinning frames.

Thornton Knitting Co., Denton, N. C., has been organized and started operations with 40 machines producing men's fancy half-hose.

Margate Hosiery Mills, Inc., Chattanooga, Tenn., have acquired the plant of the Nick-a-Jack Hosiery Mills. J. Harvey Wilson is president; C. A. Nome is vice-president, and Mercer Reynolds, Sr., is chairman of the board. Production of men's, women's, and children's seamless hosiery has begun.

Miller-Smith Hosiery Mills, Chattanooga, Tenn., have completed the installation of a new humidifier system at a cost of approximately $1,300.

TIMELY NEWS ITEMS WITH A TEXTILE SLANT . . . .

Steel Heddle Acquires Interest in Atlanta Harness & Reed

The Steel Heddle Manufacturing Company of Philadelphia, Pa., with plants in Philadelphia, and Greenville, S. C., and Montreal, Canada, has acquired a large interest in the Atlanta Harness & Reed Manufacturing Co., of Atlanta, Ga. The company announces that its object will be to use this plant for experimental purposes in the form of acquiring new articles used by the spinning and weaving mills of the South. The Steel Heddle Manufacturing Company, which has been in business for nearly 40 years, has developed much toward improved weaving conditions in the way of many patented articles covering heddles, frames and accessories. The Steel Heddle policies will be applied in assuming the supervision and management of the Atlanta concern, it is announced.

The Atlanta plant will continue to produce both cotton and steel harness, with up-to-date equipment, it is announced, and it will maintain its own selling arrangement and carry on independently from the Steel Heddle Manufacturing Company until such time as a consolidation is necessary for the benefit of the trade, the announcement continues. Guy P. Carmichael, who has been connected with the Atlanta Harness & Reed Mfg. Co. for a number of years, has been appointed general business manager of the concern.

New Draper Plant at Spartanburg

Draper Corporation started up, the latter part of September, the former plant of Standard Looms, Inc., at Spartanburg, S. C., to manufacture a selected list of loom repair parts for its southern warehouses. The plant was recently used for the production of parts for Draper looms by Standard Looms, Inc., and its successors. After purchasing the plant recently, Draper Corporation seeking to salvage what was possible of the large stock of patterns and castings on hand, had a corps of men from Hopedale check patterns and castings with blueprints of the parts as originally sent out on the looms. The company states this examination showed so many vital variations from the company's Hopedale standards that they found it necessary to scrap all the patterns and castings on hand. All parts made at the Spartanburg plant hereafter will be made from the original drawings, finished by machines and jigs that are duplicates of those at Hopedale, it is announced. The added facilities of this plant will enable Draper service on loom repair parts from the two southern warehouses at Atlanta and Spartanburg to be better than previously, it is announced.

H & B Opens Office in Charlotte

The H & B American Machine Company, Pawtucket, R. I., have opened, effective October 1, new offices at 1201-1203 Johnston Building, Charlotte, N. C., in charge of J. Walter Rimmer. (See page 128.) Associated with Mr. Rimmer are Fred Dickinson of Rockingham, N. C., and Fritz Zweifel, who has been transferred from the Atlanta office.

This office is opened to afford present clients of the company improved sales and field service, and to provide prospective customers with immediate attention. In addition to offices in Pawtucket, R. I., and Boston, Mass., branch offices are also maintained in Atlanta, Ga., in the C. & S. National Bank Building, under the charge of J. Carlile Martin.

50th Anniversary for Akron Belting Company

The Akron Belting Co., Akron, Ohio, are celebrating their fiftieth year of continuous operation as manufacturers of leather belting. Starting in a modest way in 1885, when the country was developing industries of all classes, the company carefully planned the expansion of its sales operations, which grew steadily until they now include a considerable portion of the manufacturing districts of all states, as well as several foreign markets. During the half-century of its life, the company has not undergone reorganization. With the passing of the founders, the succeeding generations have retained their holdings with confidence in the present management.

Factory operations of the company include all divisions in the preparation of oak tan leather; secondary tanning or currying, stretching, curing, finishing, and the complete manufacture of belting in all sizes and plies, in charge of men with wide experience in power engineering, belt manufacture and application. The company's products include the several types or classes of belts required in industry.

White Represents Borne, Scrymser

Donald White has been appointed representative for Borne, Scrymser Company, 17 Battery Place, New York City, in Texas, Kentucky, Louisiana, Arkansas, Mississippi and parts of Tennessee. Mr. White will market the company's Breton Minerol process for spraying cotton; Meon for conditioning filling yarns; Meon-Q for conditioning garnetted cotton and other reclaimed fiber stocks; and Versieol for textile finishing. His address is 2269 Jefferson Ave., Memphis, Tenn.

Belting Performance Book

The Graton & Knight Company, Worcester, Mass., have issued a Performance Book containing many experiences from actual case studies in connection with leather belting performance, giving the results of work being carried on by the company's research department. One study is of a textile mill reporting a bonus of $9.84 per drive belt per year from an increase of 1 per cent in speed through use of a research belt.

Speed Control Handbook

Reeves Pulley Company, Columbus, Ind., have issued a new Speed Control Handbook, with complete information on modern methods of variable speed regulation for industrial machines of all types. It explains the application of variable speed control in modern manufacturing processes, outlines the development of methods of speed control, points out the qualifications of the modern speed control equipment, and describes and illustrates in detail the Reeves variable speed transmission and vari-speed motor pulley. There are sections on the types of units available, remote and automatic control, the use of transmission by machine designers as standard equipment, practical engineering information, etc.

Book on Zeolites

The Permutit Company, 330 West 42nd St., New York City, manufacturers of water conditioning equipment, have prepared a new bulletin on "Zeolites: Mining, Processing, Manufacture and Uses", an accurate, illustrated, up-to-date paper on this subject.

Catalog on Dilecto

Continental-Diamond Fibre Company, Newark, Del., have issued a catalog on Dilecto, a laminated phenolic material which is a product of the company; including a description of the material and illustrations of its use.

Modern Equipment and Processes

THE major portion of this issue of COTTON is devoted to the theme of Modern Equipment and Processes. This is the third bi-ennial presentation of this special treatment, the previous ones having appeared in the October 1931 and October 1933 issues.

The purpose of this Modern Equipment and Process Number is to reflect broadly what has been done in the development of new machinery, new applications, new processes and new services of use in the ramified divisions of the textile industry, during the past two years or so. Through the co-operation of many of the concerns supplying these services to the industry, an effort has been made to include insofar as possible brief items that collectively review this development in a complete way.

Textile mills are always seeking out the new ideas, new economies, new processes. If recent months have represented a period of decreased interest, then the present is a particularly appropriate time for the consideration of new and modernized methods. With the coming of the fall season, and the lightening, in effect, of some of the restrictive influences of legislative control, plus an inevitable improvement in demand, mill men generally—and they were never an effusively optimistic lot—have been talking more cheerfully, and in many instances have definitely translated their better feeling into purchases of equipment. As this is written, word comes of several substantial orders for productive machinery, which always bring along a complement of auxiliary supplies and equipment.

This better tone is likewise evidenced by better operating schedules, and the ability of prices to hold firm in the various markets, with some notable increases.

So, it is felt that it is now particularly timely to present a review of new machinery and improvements, new designs, new processes, etc.

Because of the ramified and diversified set-up in this industry, with its several major branches, and a multitude of differences within each branch, it is difficult for an individual, as a member of any one of these several units, to secure a complete picture of the progress made by the industry as a whole. In a broad sense, the newer developments and tendencies are perhaps best found by a survey of what has been done among the concerns serving the industry.

It is of course self-evident that, due to physical limitations, an absolutely complete presentation of every new development having a bearing upon textile manufacture could not reasonably be presented in an issue of this kind. In securing the special material for this issue, requests were made of as complete a list as could be compiled of those concerns serving the industry, for descriptive material referring to new developments.

IT WAS necessary, in view of the special Modern Equipment and Process feature, to materially decrease or entirely omit certain regular features, such as the "How Other Men Manage" and "Knitting Kinks" discussion departments, from this issue. These will be resumed as usual in the November issue.

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Dependent upon the co-operation of the concerns of whom these requests were made, brief items referring to new developments were prepared, and, where usful and practical, illustrations used.

There are two major divisions of the special material in this issue. On the forty-odd pages immediately following are the items referring to general mill applications, while those pertaining specifically to the knitting mill and its complementary processes have been separated and are presented in another division which begins on page 131.

The comprehensive compilations of descriptions to be found in these two divisions were based upon the information supplied by concerns serving the textile industry. While the use of this material has necessitated the omission of most of the usual articles of a general character and those in the discussion departments, it is felt this feature will be of unusual and timely interest and value in presenting, conveniently and compactly, a kaleidoscopic review of most of the new developments in each reader's branch of the industry an din the others as well.

The first division, page 57, deals with some of the major *General Developments.*

The next, page 61, is *Mill Processes and Machinery,* which covers opening, picking, cotton handling, carding, spinning, warp preparation, weaving, cloth room, etc., etc.

The third section, page 82, is devoted to *Winding, Twisting, Sewing, Redraw Machines,* and similar equipment.

Accessories and Supplies, such as counters, rolls, measuring devices, etc., are covered next, page 70.

Dyeing, Bleaching and Finishing Machinery developments are described in the next section, page 88. Then come the *Chemical and Sizing Materials* of various kinds, page 94.

Developments in *Power Generation, Transmission, Electrical Equipment,* etc., page 98, cover a broad field, and these items will be of especial interest in all phases of the textile industry in view of its tremendous use of this type of equipment in its processes and plants.

General Factory and Shop Equipment is another important subject for the textile plant, and this is the heading of the next section, page 111. As stated, the material on *Knitting, Braiding,* etc., appears separately in the Knitting Section, page 131.

General Developments

Including trends in yarn improvement, communicating systems, samples, office equipment, air conditioning, research, etc. . . . . .

Ventilated Elastic Fabrics

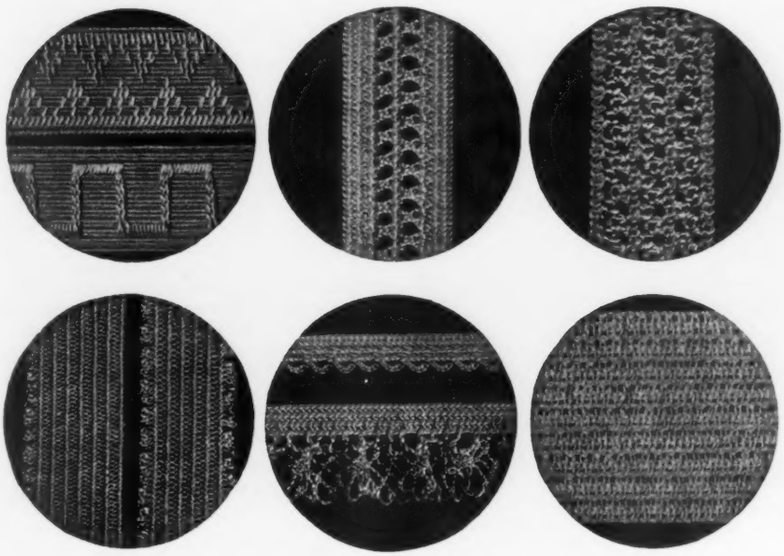
The most outstanding achievement in the elastic industry has been the refinement of design and appearance, giving the product eye-appeal and beauty beyond the prosaic braided web which remained unchanged as little as eight years ago. Efforts have been concentrated toward improving elastics from a style standpoint, as well as considering the proper degrees of stretch, tension and porosity.

Porosity, in fact, has brought elastic out of its hiding place to the prominence of a visible waistband from which basis many entire garments are planned. Porosity achieves eye-appeal, and makes for comfort and health.

Another interesting idea is the folded Lastex elastic binding used as waist and legbands on underwear and as a binding on two-way girdles and corselettes. When abbreviated shorts for men became popular, a practical knitted elastic for waistbands, having the porous feature, was developed, as well as a cotton mesh band which may be the forerunner of a trend for next season's styling.

The organization maintains an experienced and trained stylist prepared to work for and with clients in the perfection of operations or systems in the application of elastic products.

The Narrow Fabric Company, Reading, Pa.



Samples of ventilated fabrics

Naturally a ventilated openwork elastic with the Lastex or rubber distributed over a generous area and with well planned, gentle tension, is the ideal type for nearly every purpose.

Among the new improvements in manufacturing lace elastics has been the production of filet patterns so dainty that they are a fitting complement to knee-length hosiery as fine as 54 and 60 gauge chiffon. These lacy Lastex elastics cover a range from filmy brassiere trim on up to the fine, lacy tops for knee-length hosiery, then to sturdier anklet elastics, underwear waistbands and legbands, brassiere back straps and the tough, strong tension items used as ski trouser bands and beach sandal materials.

The sales and experimental departments have also improved the necessary flat elastics for stripping corset seams, garters, shoulder straps, and the like.

Two-Sheet Sales Unit

An attractive package has been designed for use by Chatham Manufacturing Company, to hold two sheets in transparent cellulose wrapping. The whole makes for a conveniently handled sales unit, with splendid display possibilities. The colors are buff and brown, with bold lettering emphasizing the protection that the "specification" printed on each wrapper affords the purchaser. The flap opening allows for full display of the "specification" which gives all the essential facts about the fabric used, its thread-count, strength, weight and size. Unsanitary handling and fingering, with consequent soiling, on the counter, are entirely eliminated. The printed specifications quickly give the housewife all the information about the sheets she wants, without the need of handling.

Robert Gair Company, Inc., 155 44th St., New York City.

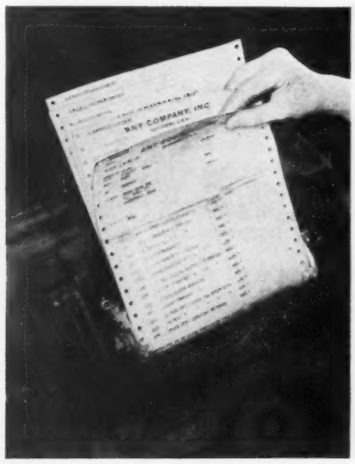
Overhauling System

Arrangements have been made for a working agreement whereby the Saco-Lowell Shops will use the Guillet overhauling system in the construction and erection of their textile machinery. They will also sell the system in New England and foreign countries.

Dixie Spindle & Flyer Co., Inc., 1906 N. Brevard St., Charlotte, N. C.

Efficient Communications

An interesting development is the application of teletypewriter service by textile firms. The teletypewriter is a machine which permits the exchange, over Bell System wires, of typewritten messages, just as the telephone carries oral conversation. Letters typed on one machine, little different from the ordinary typewriter, are instantaneously reproduced on one or more other machines, which may be next door or 3,000 miles away. A recent development is the adoption of forms for use in the machine. With them it is possible to immediately set in motion the necessary steps for prompt handling of an order, inquiry, etc. An example is the Aberfoyle Manufacturing Company, Chester, Pa., with sales outlet in New York. The handling of an order will illustrate the procedure: the order is received at the New York office. It is typed out on the teletypewriter on special forms, two copies at New York and three at Chester. These are sufficient for every operation involved in handling the order. The customer can check his order, the credit manager can make his inquiries, sales office records can be kept up-to-the-minute. While the order is being assembled, the accounting department has the necessary information, the billing machinery is moving, production costs can be computed, and replacement of stock proceeds automatically.



Form writing by teletypewriter

Turner Halsey Company, New York textile selling agents, use the service for a daily report on credit, delivery, and shipment from the mills in Baltimore to New York. Bliss Fabyan & Company, Inc., tie together their sales offices and four plants in New England by teletypewriter.

American Telephone & Telegraph Company, Long Lines Department, 32 Sixth Avenue, New York City.

Service on Wolmanizing

Within the past year, services for providing lumber treated with Wolman Salts has been extended to a nation-wide chain of treating facilities, to make generally available lumber treated with this wood preservative for protection against decay and termites.

American Lumber & Treating Company, 37 West Van Buren St., Chicago, Ill.

Mercury Vapor Reflector

A new reflector has been developed for the new high intensity mercury vapor lamp which practically doubles the lighting intensity of incandescent lighting. The combination reflector permits the use of ordinary incandescent lamps along with the mercury vapor lamp in a single fixture. It can be mounted as low as 8 feet.

The Miller Company, Meriden, Conn.

Automatic Airchanger

A method and apparatus for controlling air change in humidified hot factories, particularly cotton mills, fills a long-felt need of a satisfactory means for balancing air change with evaporation, insuring continuous, accurate control of room humidity and regain while providing ample air change to permit full operation of humidifiers with resultant high evaporative cooling.

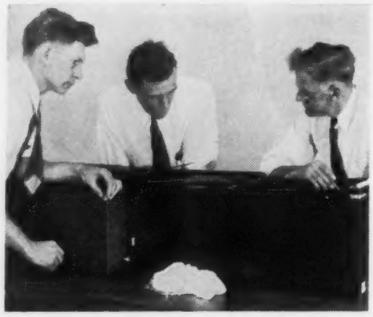
Additional features are ducts for distributing the air drawn in from outdoors to various parts of the room where the humidifiers are located, and special automatic regulating devices responsible for close accurate control of atmospheric conditions.

The system maintains a slight air pressure within the building which prevents inleakage of outdoor air around windows, doors and elevator wells. Local wet and dry spots are eliminated. Fixed uniform humidity and moisture regain are maintained at all times regardless of outdoor weather. Room temperature during the hot summer is the lowest possible with the installed humidifying equipment. In winter, accurate control of humidity and regain is maintained and alternate hot and cold temperatures are avoided by gradual temperature control. The system is flexible in its ability to maintain any desired humidity or regain condition and permit easy adjustment of room conditions for different classes of work, day and night operation, etc. It is applicable to any existing, well-humidified mill where ceiling height is sufficient to permit satisfactory installation of the necessary duct work. It is designed to supplement existing humidifying and ventilating equipment—not to replace it.

Parks-Cramer Company, Fitchburg, Mass., and Charlotte, N. C.

Textile Projector

A new textile projector is designed to magnify, project and photograph fabrics, permitting examination of a specimen by large groups at the same time. Since the projected section is much larger than can be seen through a microscope, imperfections can be quickly detected. The textile projector is used for checking the twist and evenness of yarn and the uniformity of stitch and course in knitted fabrics; it also shows the results of rough or worn knitting needles, sinkers, etc., and in woven goods it shows the results of uneven tension and uneven twist. The new instrument is designed for compactness. It employs one 500-watt lamp with reflectors. Stray light is eliminated by complete enclosure and a photographic attachment is provided for making permanent records. The projector does not require a dark room.



Textile projector

Bausch & Lomb Optical Company, Rochester, N. Y.

Air Porosity Machine

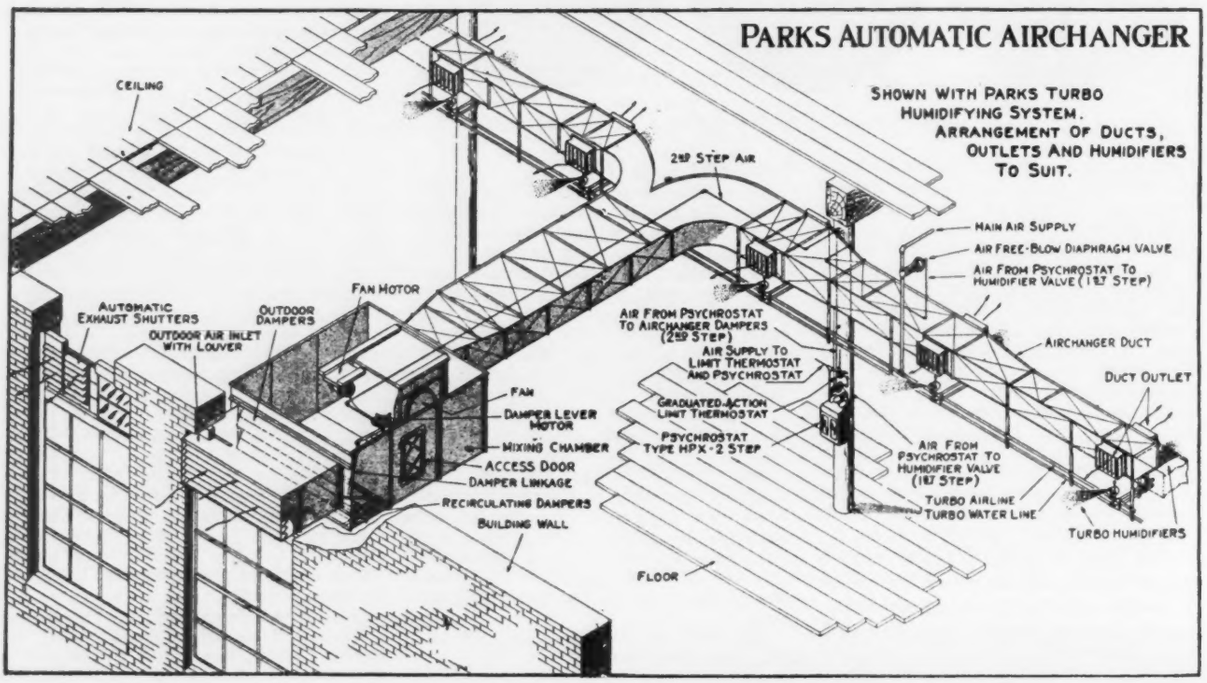
A machine for measuring the air permeability or air porosity of fabrics, developed some years ago by the Bureau of Standards to test parachute silk for government use, draws air through the fabric being tested and through a calibrated orifice meter by a suction fan. The pressure drop across the fabric and the pressure drop across the orifice meter are measured, respectively, by inclined and vertical water gauges. The test shows the cubic feet of air passing through one square foot of fabric in one minute. This machine is now making commercial tests for manufacturers of sheets, blankets, canvas, etc.

United States Testing Company, Inc., 1415 Park Ave., Hoboken, N. J.

Employees' Welfare Program

During the past two years, an Employees' Welfare Program, modern in every respect, and designed to meet the needs of the textile industry, has been developed. Through such a program, the employer and his employees join together for their mutual welfare and best interests, the employer lending to his employees the influence of his corporate buying power in the purchase of accident, health, and life insurance protection at low cost. The system is adaptable to the needs of individual conditions.

Provident Life and Accident Insurance Co., Chattanooga, Tenn.



Microscope with Photomicrographic Camera

A positive means of preventing costly errors and discovering the causes of defects is the employment of the microscope and the photomicrographic camera. With the Model H microscope commonly used in textile plants, satisfactory studies of fiber and fabric can be made, and given permanent and visible form by making photomicrographs

Microscope with photomicrographic camera

with the Type J camera. Permanent records of this character afford valuable records for protection in referee actions, copyright and purchaser disputes. They are also excellent for illustrated reports and papers and useful for sales and advertising. A unique feature of the Model H microscope is a design to which accessories can be added for practically any type of advanced work. The HH-7 model gives magnifications of 20X, 40X, 50X, 100X, 215X and 430X. The JP-7 camera, which takes 5 x 7 plates, has a 25-inch optical bed and is equipped with a mazda lamp illuminating unit.

Bausch & Lomb Optical Company Rochester, N. Y.

New Plant

In a new warehouse building and office building, the warehouse is of one-story construction, with 60,000 square feet of floor space on one floor, with level loading. A tank storage system for oils was installed, all oils being received by rail at a high level, and flowing by gravity into the tanks from which they are distributed by pumps. The manufacturing unit was completely rebuilt, with an addition containing 26,000 square feet. New tanks, compounding and mixing equipment have been added—providing facilities for doubling previous production. The laboratory has been greatly enlarged, with control equipment and automatic temperature and processing controls provided throughout the plant. All raw materials are carefully tested and every stage of processing is carefully checked and controlled.

Scholler Brothers, Inc., Amber and Westmoreland Streets, Philadelphia, Pa.

Development in Use of Stainless Steel

The application of stainless steel to dyeing, weaving, spinning and finishing equipment, has received considerable impetus recently. Among the applications are winding spool ends; bobbins, dye cylinders, temperature control instrument parts, tenter machine clips, winding spool gudgeons, size pump valves, winding machine parts, card clothing, spinning rolls, covers for wet twister rolls, etc. These applications are being made with a view to the prevention of corrosion, etc.

American Stainless Steel Company, Commonwealth Bldg., Pittsburgh, Pa.

Intracommunication System

A simple, convenient intracommunication system, known as Telematic, Jr., has been developed especially for business offices, etc. A key on the instrument is pressed, and the voice is carried, without the use of a mouthpiece, from the instrument through a sensitive microphone, to the substation desired, and a clear-toned loud speaker brings back the answer instantly.

Dictograph Products Company, Inc., 580 Fifth Avenue, New York City.

Stroboscope for Speed Measurements

A new type of the Strobotac, which is portable, is designed specifically for plant maintenance work; weighing only a few pounds with a largest dimension of 10 inches. The Strobotac consists of a neon lamp which can be flashed at speeds ranging from 600 to 14,000 per minute by means of a small self-contained vacuum tube oscillator. The speed is read directly from the dial which controls the speed, and the calibration is made in revolutions per

Speed measurement

minute. Provision is made for controlling the speed of flash from an external source if desired. The Strobotac operates directly from a 60-cycle a. c. line and the line frequency is used to adjust the calibrated scale to its proper value.

In adjusting spindle speed, for example, the first spindle on a row is set at the proper speed by first setting the Strobotac dial at the desired speed, then adjusting the spindle until it appears to stand still. The Strobotac is then carried down the line of spindles and as the light strikes each spindle in turn it will appear to revolve slowly either forward or backward. The speed of each spindle in turn is then adjusted until it appears to stand still in the light of the stroboscope, to assure uniformity and higher quality of yarn production.

General Radio Company, 30 State Street, Cambridge, Mass.

Cotton Maturity Microscope

A cotton maturity microscope was developed for determining maturity and grading fibers by means of polarized light. Under polarized light, mature fibers differ materially from immature fibers. This instrument is especially useful to manufacturers of me-

Cotton maturity microscope

chanical cotton fabrics, such as fire hose, belting, webbing, tire fabrics, etc., by aiding in turning out a uniform product. With the aid of the polarizing microscope, fibers may be differentiated which are so nearly alike chemically that other methods are not satisfactory. Details of internal structure are disclosed readily, and changes due to chemical or mechanical treatment are easily detected.

Bausch & Lomb Optical Company, Rochester, N. Y.

Experimental Engineering Department

A new line of business in addition to manufacturing and selling the Boyce weaver's knotter has been developed, known as the experimental engineering department, which assists inventors in designing and perfecting models; cooperates with mills, manufacturers and machine shops in making special small parts, dies, castings, nuts and screws, either for the special attachments many mills make for their own use or standard small parts needing replacement. The concern is equipped to make accurate small parts, employing experienced die and tool makers, having automatic screw machines, automatic presses for metal stampings, tumblers, and heat treating equipment for tempering and hardening parts.

Mill Devices Company, Inc., Gastonia, N. C.

Humidifier Control

A new humidifier control embodies several unique features along with the type of humidistat used for years by the U. S. Weather Bureau. The assembly is enclosed in a steel cabinet with glass front, and the cabinet may be locked to prevent tampering. An electrically-driven fan is mounted on top

Humidifier control

of the steel cabinet, and this causes a constant circulation of air over the instrument. The humidistat can be instantly removed and replaced as a cartridge fuse in a fuse panel would be replaced. The humidistat may be readily removed and taken to the laboratory when calibration or attention of any sort is required. It is thus possible to take out all of the humidistats regularly in rotation at specified intervals and carry them to a laboratory for accurate calibration.

Rhode Island Humidifier and Ventilating Company, Boston, Mass.

Absorption Apparatus

A scientific apparatus has been developed to measure the absorbency of textile fabrics by the strip test method. Strips 8 inches by 2 inches are held fast at top and bottom by a simple arrangement, positive in action, which prevents errors due to varying depths of immersion. The whole apparatus is immersed in a suitable dye solution and the height of travel of the colored liquid up the strip is measured by accurately graduated steel scales.

Phipps & Bird, Inc., 915 East Cary St., Richmond, Va.

Textile Chemist

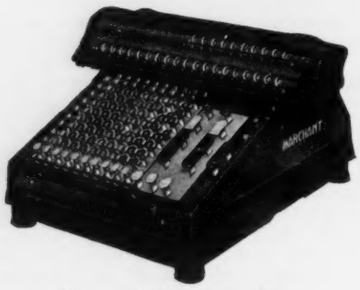
The equipment of a new plant established July 1st, 1934, consists of Monel metal sulphonating machinery and compounders, and a nickel clad steel sulphonator. The machinery was all made to order and built especially for sulphonating in the South where the temperatures during the summer time are such that sulphonating is difficult; this has necessitated the installation of an efficient refrigerating unit to take care of this excess heat. The plant manufactures everything sold, and the company are southern representatives of Calgon, Inc., Pittsburgh, who control the patents on "Sodium Hexa-Metaphosphate."

Officers are, G. S. McCarty, president and sales manager; and William W. Ray, secretary, treasurer and general manager.

The Carolina Aniline & Extract Company, Inc., 1122 South Boulevard, Charlotte, N. C.

Calculating Machine

A new "Silent-Speed" calculating machine is completely electric, with three check dials, one for each factor including the keyboard set-up; all dials



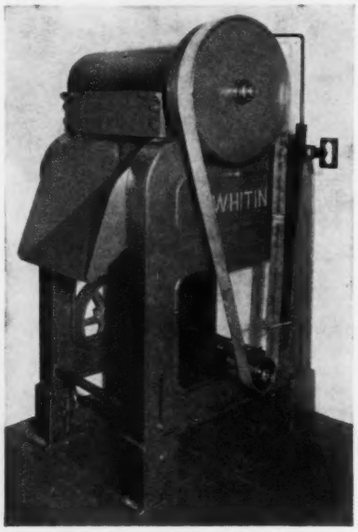
New calculating machine

are closely grouped in operating alignment. The machine has a pre-set decimal and complete 20-place carry-over. Automatic division is performed with a touch of the division key. The add and subtract bars are ready for direct operation with no keys or levers to set. The machine is small, light and portable; the keys are oval-shaped to fit the fingers.

Marchant Calculating Machine Co., Oakland, Cal.

Staple Cutters

A machine for cutting rayon to staple lengths suitable for processing in regular cotton mill equipment incorporates a two-blade cutter of special construction which operates at 120 r.p.m., handling from 250 to 300 pounds of cut staple per hour. The customary machine is arranged to cut rayon in 1¼, 1½ and 1¾-inch lengths by using change gears. Special gearing is provided to cut staple 5, 6, and 7 inches in length. The machine may be operated with either motor or tight and loose pulleys.



Staple cutting machine for rayon, wool tops, mohair and ramie . . . . . .

A staple cutting machine adaptable to various staples up to 8-inch and designed for cutting rayon, rayon tops, wool tops, mohair and ramie, has heavy cutters with either two or four blades, which is especially adaptable for cutting wet staple made by rayon manufacturers. Production is from 250 to 300 pounds per hour with the regular two-blade cutter running at 120 r.p.m.; with the four-blade cutter, for staple not over 4-inch, the production is almost doubled. The blades will run from six to eight months without sharpening, it is stated. For cutting wet material, the cutter has a set of rubber squeeze rolls instead of steel fluted rolls. It has a positive cut at all times with no variation in lengths, it is pointed out.

Whitin Machine Works, Whitinsville, Mass.

Central Conditioning Cabinet

A new central conditioning cabinet, designed for use in offices, etc., with capacities from three to 24 tons, is available in combinations suitable for simple cooling only, up to a construction giving complete air conditioning, including summer and de-humidifying, and winter heating and humidifying, and year-round cleaning. Motors are not self-contained but are to be mounted beside the unit. A heavy gauge welded pan is provided for collection of condensate and to act as a base for the entire unit. The filters are the dry throw-away type. The humidifiers are the coil and pan type for steam or hot water and include float valve for maintaining the water level.

Buffalo Forge Company, Buffalo, N. Y.

Winding-Cutting Machines

To replace machines used separately for winding materials into rolls and for cutting down the rolls into strips, a combination winding and cutting machine to handle both operations on one machine has been developed, resulting in floor space saving and permitting a one-motor hook-up. Both operations are conducted from the front of the machine. Only one feature of the machine is in use at a time; by means of stop-motion devices, the cutting feature is stopped while the winding feature is in use, and vice-versa.

The Fabric Machine Company, Inc., 307 Center St., Bridgeport, Conn.

Leaflet on Gearmotors

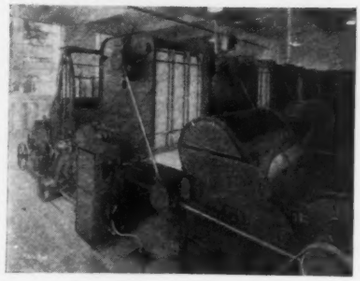
Allis-Chalmers Manufacturing Co., Milwaukee, Wis., have issued Leaflet 2203 covering gearmotors, a well illustrated publication describing these compact self-contained speed reducers, with integral or attached motors that permit lowspeed drives with high over-all efficiency. Eight types of gearmotors are shown for application to various horizontal and vertical arrangements, available with any type of a.c. or d.c. motors. Standard speeds at the power take-off range from 6.08 r.p.m. to 1,165 r.p.m., providing almost any slow speed.

Mill Processes and Machinery

Covering opening, picking, carding, drawing frames, long draft roving and spinning, weaving machines and accessories, cloth room, etc. . . . . .

Cleaning and Blending Reserve One-Process Picker

A cleaning and blending reserve for one-process picking is designed to take out of the cotton a large proportion of the light foreign material not removed elsewhere, and to synchronize the breaker and finisher sections and automatically maintain an intermediate reserve supply. It is located between the



Cleaning and blending reserve

breaker and finisher section, and takes the cotton from the intermediate screen section upward by means of a vertical conveyor, the cotton remaining in a continuous sheet. It is then delivered to a pair of feed rolls, from which a six-arm beater picks the sheet and distributes the loose cotton evenly over a set of grid bars. The stock then drops into a reserve chamber from which it is fed to the finisher beater. The feed of the breaker is controlled from the reserve chamber. A sensitive feeler in the reserve is connected to a mercoid switch which stops and starts the breaker feed, holding the level of the cotton in the reserve chamber within close limits.

Saco-Lowell Shops, 147 Milk Street, Boston, Mass.

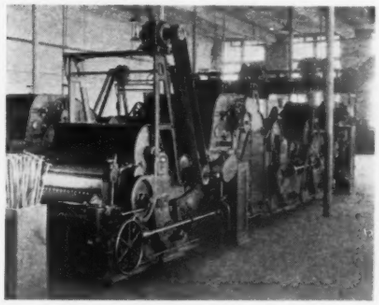
Differential Drive

A new differential drive has been developed to better regulate the flow of cotton from bale openers and cotton cleaning machines to cotton distributors and pickers. With it, the flow of cotton from the bale openers is reduced when an electric control operates as the picker hoppers are filled, and is automatically increased as the picker hoppers need cotton; instead of stopping the flow of cotton from the bale openers with the cleaning machines running idle when an electric control operates, and instead of putting too much cotton into the cleaning machine when the electric control operates to start the flow. The cleaning machines therefore do better cleaning, it is pointed out, because there is always some cotton passing through them, and the peak load is less than it is where the cleaning machines run idle every time an electric control operates. The principle also prevents choke-ups in cleaning machines caused by cage condensers failing to thread and deliver cotton when the flow of cotton is started after the cage condensers have delivered all of the cotton passing through the cleaning machines when an electric control operates to stop the flow from the bale openers, it is explained. With the new drive, there is always some cotton on the revolving screen of the cage condenser and between the delivery rolls, to insure a positive delivery of cotton as the rate of flow is increased.

The Centrif-Air Machine Co., Inc., Atlanta, Ga.

Picker Changeover

A method of revamping single process pickers into one process machines include a large hopper automatic feeder for even distribution of the cotton across the full width of the feeder apron. An intermediate feeder is used for much the same purpose and to provide blending of the stock before it



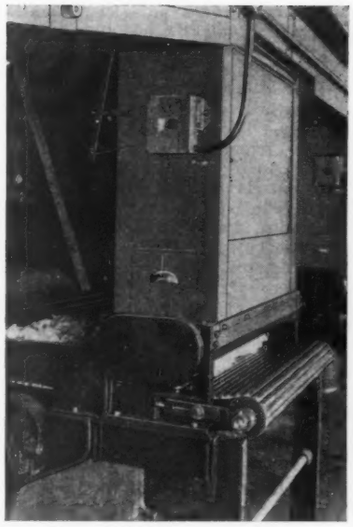
Picker changeover

reaches the finisher section. Evenness of laps, accurate control of selvage variation and fewer lost laps were the objectives in the design.

Whitin Machine Works, Whitinsville, Mass.

Automatic Control Feeding System

A new automatic control feeding system for pickers is designed to present a mass of cotton uniform both as to rate of delivery and evenness across the width of the picker. A simple cotton reserve chamber is employed in the place of the customary feeders. The stock is delivered by a mechanical conveyor to these chambers in which the cotton supply is maintained at a constant level and constant pressure at all times. In each reserve chamber is a delicately balanced feeler connected to a simple mercoid switch which serves to keep the supply of cotton at a constant level in all of the reserve chambers. When all the pickers have their proper supply, the opening machinery is automatically stopped. When the level falls below a certain point in any one of the reserve boxes, the opening system starts up again. As the conveyor operates at all times, any



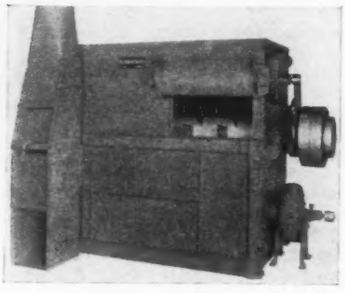
Control feeding system

surplus stock carried beyond the last picker is returned and is available for instant use when and where required.

Saco-Lowell Shops, 147 Milk Street, Boston, Mass.

Cotton Cleaner

A new principle in cleaning cotton, by which cotton is cleaned under air pressure instead of under suction, is used in the latest model Centrif-Air cotton cleaner. It is pointed out that air forced into the body of the cleaner under controlled pressure along with



New type cleaner

the cotton expands and assists in opening and blooming the cotton; also exerts a slight pressure on the upper surface of the cleaning screen and in passing downward through the screen helps the revolving beaters to throw out motes, dirt, etc., and prevents their being drawn back into the cotton after they have been thrown out. The new machine is designed to supplement, not replace, ordinary cotton cleaners, all of which operate under suction.

The Centrif-Air Machine Co., Inc., Atlanta, Ga.

Improvements in Oil Spraying

Mechanical improvements in equipment for spraying oil on cotton include the use of a neutralizing eccentrically revolving shaft on the mechanical metering system used for small amounts of liquid. This is designed to permit an accurate supply of liquid to the spray heads. The spraying device consists of a series of crisscross spraying arrangement which for picker spraying

will apply an even amount across the lap; the system is used on raw white cotton and dyed stock.

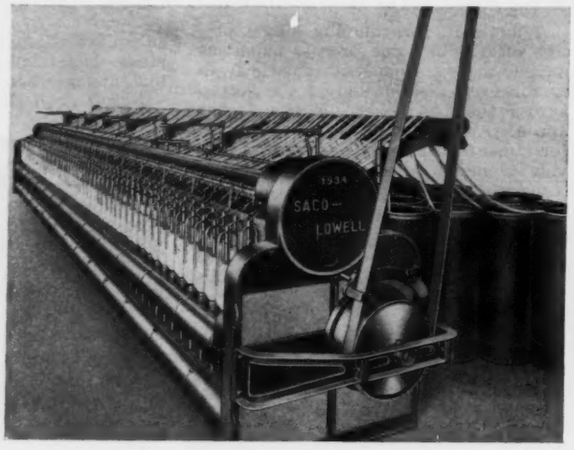
A single-head assembly was developed for spraying Meon-Q on reclaimed stock such as garnetted cotton, comber noils, etc. The pumping system used is capable of metering from a fraction of 1 ounce up to 250 ounces per hour.

An individual mechanical outfit is attached to each picker or cotton delivery line to maintain accuracy in spraying, measuring a definite amount of the treating fluid to each 100 pounds of cotton.

Borne, Scrymser Company, 17 Battery Place, New York City.

Controlled Draft Roving Frame

A revolutionary development in drafting is employed in the controlled draft roving frame, which employs two sets of drafting elements set in a special roll stand. The back set consists of two lines of top and bottom rolls, the bottom rolls being of a special type of fluted metallic roll. The top rolls in this set are also metallic and of a shell type with fluting similar to the bottom rolls. The front set is made up of a patented groove and tongue roll, and a pair of regular roving rolls (fluted bottom and cushion-covered top roll.) All drafting is performed on an untwisted sliver. The ordinary round trumpet on the traverse motion is replaced with a "forming" trumpet which tends to condense the stock into a ribbon of uniform density and cross section. In the second line of "folding" rolls, a groove is cut around the top member and a corresponding tongue is formed on the bottom roll. These two rolls act as the back rolls of the second drafting element and in addition to folding the sliver. The front set of rolls is lower than the first set, allowing the sliver to be drawn gradually into the groove by the tongued roll, as the sliver comes downward from the first set, and the selvages are thus gently folded down into the main body of the cotton. On one-inch cotton, the range of total draft for the machine is 10 to 30, and with better than one-inch staple, considerably higher drafts are practical.

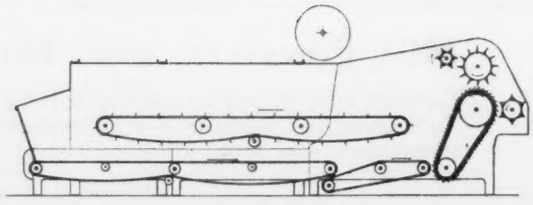


Controlled draft roving frame

Saco-Lowell Shops, 147 Milk Street, Boston, Mass.

Bale-Mixer

A development in mixing and blending cotton is a new bale-mixer, an apron applied in the hopper of the bale breaker and over the feeding apron, so that no floor space is utilized. The extension apron of the bale breaker is operated at the same speed as the bottom feed apron in the bale breaker which naturally feeds cotton four or five times as fast as required. The surplus cotton over and above what passes the stripping roll of the bale breaker and is fed out of the machine, falls back on the upper apron of the bale mixer which travels toward the back of the machine and carries the surplus cotton away from the spiked apron as fast as the stripping roll throws it back. This cotton upon reaching the back of the machine is dropped on the lower apron to be returned to the spiked apron again.


The Bale-Mixer

Lummus Cotton Gin Co., Columbus, Ga.

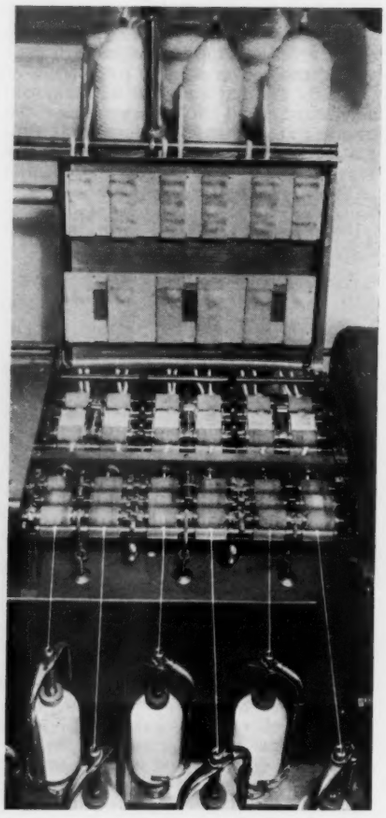
English Buffing Machine

A grinding lathe for grinding or buffing rollers covered with cork cots, developed in England, incorporates a speedy hand setting motion for advancing and withdrawing the cork roller into and from grinding contact. This patent setting motion results in rapid work, replacing hand wheel feeding; and in addition to large production permits the operator to grind every roller to the same diameter at one setting, it is explained. A grinding drum covered with "Corundex" fillet is used instead of a narrow traversing emery wheel. The drum is made up of three sections mounted on a shaft and oscillated by a traversing motion to distribute the abrasion.

Dronsfield Brothers, Ltd., Oldham, England. (Agents: John Hetherington & Sons, Inc., Boston, Mass.)

Super-Draft for Roving Frames

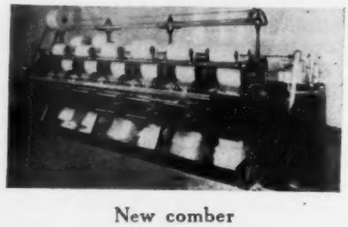
Success of long draft systems on spinning and roving led to the development of the super-draft system for roving, especially adapted for 30s and finer with extremely long drafts. It may be used on 9 x 4½, 8 x 3, 8 x 3½ and 7 x 3½ roving frames to produce up to 6.00-hank roving direct from drawing sliver. The frames may be fed either from cans or creels. The system comprises a combination of the Whitin-Casablancas system with the regular slubber roll system, with twister heads located between the two roll section. The twister heads replace the flyers on the suppressed slubber, imparting a false twist to the roving, which then passes to the front section of rolls where further drafting is done. While the total draft is high, it is made up of normal component drafts.


Super-Draft for Roving

Whitin Machine Works, Whitinsville, Mass.

Saco-Lowell Comber

A double-sided comber has been developed, in which the nipping actuating mechanism permits the nipper to be set close to the cylinder needles and be stationary during the complete passage of the half lap; the nipper and top comb mechanisms are designed so that the top comb needles may be


New comber

TRULY ENDLESS

— practically stretchless

— THE PERFECT BELT FOR HIGH-SPEED TEXTILE DRIVES

This photograph shows you why the Goodyear COMPASS (Cord) Endless Belt stands alone on textile drives requiring even speed, even tension. It has no splice! The load is carried by a layer of heavy endless cords, spiralled continuously — a patented Goodyear construction that is PRACTICALLY STRETCHLESS! The cords are encased in a sturdy fabric envelope, double on pulley side, that takes the surface wear. No more flexible belt is made — even on high-speed, small pulley drives COMPASS often lasts up to 10 times longer than other belts. And every COMPASS is individually specified to your drive, in the correct size and weight, by the G. T. M. — Goodyear Technical Man — to insure perfect performance. Let this practical belting expert advise you — write Goodyear, Akron, Ohio, or Los Angeles, California — or the nearest Goodyear Mechanical Rubber Goods Distributor.

BELTS
MOLDED GOODS
HOSE
PACKING
MADE BY THE MAKERS OF GOODYEAR TIRES

THE GREATEST NAME IN RUBBER
GOODYEAR

continually clean; a yielding nipper knife is used to avoid metallic contact with the needles. One central actuating mechanism with one screw in the disc controls the percentage of noil for all 12 heads on both sides of the machine. A patented double drum aspirator is used for keeping the comber clean and reducing the time required for cleaning. This rounds out the company's line of machinery for handling cotton from the bale to the loom.

Saco-Lowell Shops, 147 Milk Street, Boston, Mass.

Improvement in Automatic Spoolers

The increased capacity of the automatic spooler, brought about by increasing the size of the yarn package and re-design of the tying mechanism to permit greater speed, made it desirable to increase the flexibility of this machine. The spooler can now be arranged so that four kinds or counts of yarn can be run at one time without danger of mixing either bobbins or yarn packages. Also, the trend toward larger spinning bobbins made it desirable to make other changes so that any spinning bobbin in ordinary use can now be accommodated.

Barber-Colman Company, Rockford, Ill.

Card Grinding Equipment

The portable auto-feed "needle-point" grinder No. 176, with patent slow-driving motion for cylinders and doffers, has for its object the re-"needle-pointing" of the card wire when, through the wear and tear of carding and ordinary surface-grinding, the card wire points have become blunt and flattened. Subsequently, the patent "needle-point" grinder No. 185 for grinding revolving flats, in which is incorporated the No. 176 portable grinder, was developed. With it, as many as 28 flats may be operated on simultaneously, and all of the actions are automatic.

Another new type of grinder is the patent bare cylinder grinder No. 184 which is used for grinding cylinders and doffers on the bare iron before putting on the card clothing, preventing uneven surfaces and providing a better bedding of the card fillet on the surfaces, as well as saving a large amount of final grinding of the card clothing after lapping. To this machine was recently added a gear-motion which reduces the speed of traverse of the emery wheel.

Dronsfield Brothers, Ltd., Oldham, England. (Agents: John Hetherington & Sons, Inc., Boston, Mass.)

Spinning Staple Rayon

Spinning equipment for processing staple rayon is designed so that the yarn after being spun can go through the usual method of cutting and processing for the standard cotton system of manufacturing. The same machine may be used for manufacturing continuous staple by the new Perlok system, in which a continuous band is drawn down to the proper size of roving after being spun and purified, on what is known as a breaking-down machine. The roving from the breaking-down machine goes to a long draft spinning frame, to be spun directly into yarn of the size desired.

Whitin Machine Works, Whitinsville, Mass.

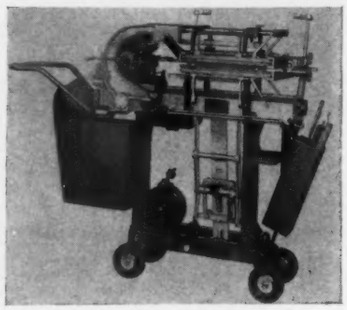
High Speed Slasher

A new slashing system embracing the generous use of anti-friction bearings, temperature control, stretch control and a new double creel arrangement has been developed. The stretch control or positive feed roll unit feeds the warp into the slasher at a predetermined rate so that the actual sizing and drying is done with a minimum strain on each individual strand; the stretch is controlled uniformly at approximately one per cent. A new double creel arrangement, which contributes to higher production, involves the use of two creels, so while beams are being fed to the slasher from one set, the yarn in the second set is laid in by a special drawing-in frame, and a special arrangement of track and truck permits substitution of the two creels. The new system includes complete Tycos instrument for automatic control of drying temperatures on all cylinders, temperature and level controls for the size, and complete temperature controls for size cooking and storage.

Saco-Lowell Shops, 147 Milk Street, Boston, Mass.

Warp Tying Machine for Rayon and Silk

The new Model LS warp tying machine is designed especially for drawing, twisting, or tying warps and end-and-end lease, in rayon and silk weaving. It is equipped with an entirely new type of selecting mechanism that selects the warp threads from the lease



Portable warp tying-in machine

instead of from a flat sheet, insuring straightness of warps. The tying operation is performed at the rate of 250 knots per minute with an average production of from 3500 to 4500 ends per hour. The machine adjusts itself automatically to many varying conditions and may have adjustments easily and quickly made to take care of different sizes and kinds of synthetic yarns.

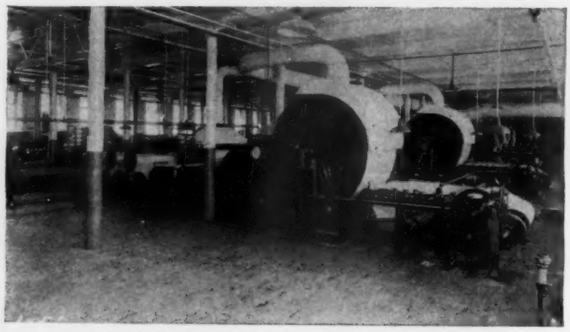
Considerable reduction in machine weight has been made over the previous Model K portable cotton machine. The new models, LS for rayon and silk, and LC for cotton, weigh approximately 350 pounds, as compared with 590 pounds for the older Model K. This reduction in weight and consequest ease of manipulation was secured through the use of aluminum and other special materials.

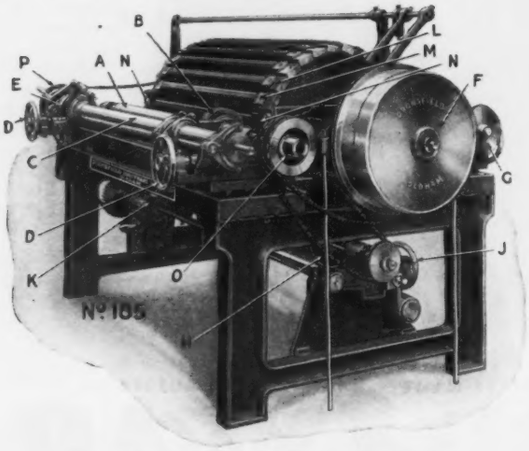
Barber-Colman Company, Rockford, Ill.

Larger Rotary Scrimp Brush

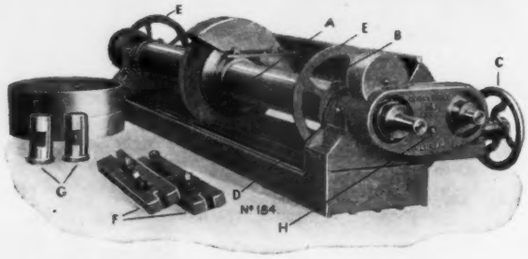
A 7-inch patent rotary scrimp brush has been brought out in addition to the 3-inch diameter. These brushes are

Right, high speed slasher . . . .





"Needle point" grinder for flats



Grinder for bare card cylinder

EXTRA CUSHION

..WHAT IT MEANS

TO YOU...AND HOW WE PUT IT INTO OUR NEW COT

SIX important new advantages are offered mill owners in Armstrong's EXTRA CUSHION Seamless Cork Cot. Briefly, they are: better yarn quality, less end breakage, improved Monday morning start-ups, more satisfactory performance on old frames, easier handling in changing numbers, and a greater factor of safety under all conditions.

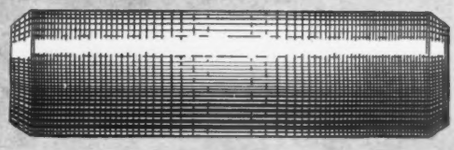
These advantages are the result of an entirely new and different process of cork cot manufacture—the *tubular* process—an exclusive development covered by patent. A vital advance, it assures absolute control of cot density from end to end and produces a cork cot that not only is stronger, but also possesses greater cushion or resilience.

Heretofore, the standard method of cot-making has been by cutting the cot out of a solid block of cork composition. Although improved by Armstrong, this method always retained unavoidable problems in the way of uneven density within the cot caused by the difficulties of compressing and baking large blocks of cork composition.

Under the new process, cork is fed into a tubular machine in small charges, with an immediate release of pressure once the correct density is obtained. This prevents any variation in density throughout the cot. In addition, baking is accomplished in an electrically heated zone, accurately controlled in temperature, which extends all around the tube. By this means, the heat is required to penetrate a wall of cork only 1/8" to 1/4" in thickness, thus insuring a uniform set-up of the binder.

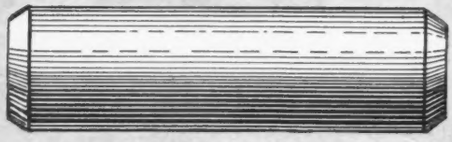
The above chart indicates graphically the "in service" performance of the new EXTRA CUSHION cot compared with the old-style block-type cot. Examine it closely! Consider carefully the advantages your mill will enjoy through the use of this new and better cork cot. Then write for test-data on Armstrong's EXTRA CUSHION Seamless Cork Cots, compiled through the co-operation of representative mills during the past two years. Armstrong Cork Products Co., Textile Division, 923 Arch Street, Lancaster, Penna.

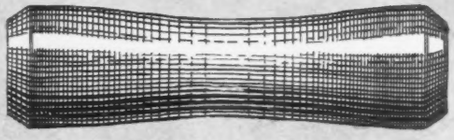
YOU CAN *see* THE DIFFERENCE



BLOCK-TYPE COT BEFORE USE. Shading indicates uneven density of this cot.

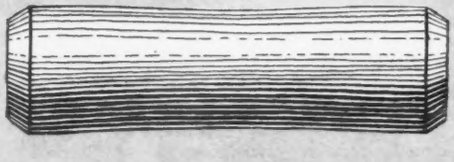
NEW *EXTRA CUSHION* COT BEFORE USE. Density is even from end to end.





BLOCK-TYPE COT AFTER USE. Transverse action has grooved it out.

NEW *EXTRA CUSHION* COT AFTER USE. The effect of long use can hardly be seen.



ARMSTRONG'S *Extra cushion* SEAMLESS CORK COTS

FOR SPINNING AND CARD ROOM ROLLS

designed to act as guide rolls as well as remove wrinkles and creases from the goods, for use before such machines as winders, calenders, printing machines, open soapers, etc. They are made in all widths and are fitted with ball bearings.

Bristle Stretcher Expander Co., 32 Kent Street, Somerville, Mass.

Automatic Winder

An automatic head has been developed for the standard Abbott circulating spindle winder that will find the end on the package, drop the bobbin on the peg, tie the ends and wind up the slack. The operator has only to

Automatic tie-in head for winder

find the ends on the bobbins and place them in a stationary hopper, doffing the full packages as an indicator shows them up to size. The features of having the operator stationary and moving the work to her are retained in the new development. Several automatic mechanisms handling the bobbins in and out of the machine and for sorting the empty partly-run-out bobbins, which further reduce the work of the operator, can be applied to meet special conditions.

Abbott Machine Company, Wilton, N. H.

Rayon Conditioner and Twist Setter

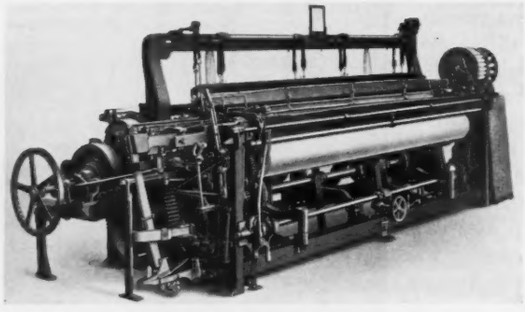
A new rayon yarn conditioner or twist setter, designated as the H-W Model, is designed primarily to prevent sloughing off of crepe yarns, to overcome liveliness and kinkiness for preventing wavy picks and snarled and broken filling, and to insure a more uniform pebble and shrinkage. However, its controls permit varying the humidity from 30 to 95 per cent allowing the conditioning of low-twist filling yarns. The machine is based on the theory that an excess of moisture in the air is absorbed too quickly by the outer layers of yarn on the bobbin, thus blocking the passage of the humidified air to the interior of the bobbin. In the machine, the moisture is taken up in a finely diffused state by a current of air passing over a vessel of heated water. In addition to the electric or steam heating unit embedded in the constant level bath of water, a dry unit automatically controls to so balance the wet unit that any desired humidity may be maintained within the cabinet. It is reported that the machine is capable of handling 70 to 80 pounds of quilled rayon every 15 minutes. In addition, it is used for setting silk and rayon twist on bobbins, cones, tubes, spools, cops and skeins.

The Industrial Dryer Corporation, Stamford, Conn.

Draper Loom and Other Developments

Two models have been added to the X family of high speed looms. The XK model is for dobby weaves in rayon and a wide range of cottons from medium corduroys to the finest fancies, in a much wider range than the older K model which it is designed to re-

The new XK model loom



The new XL model loom

place. It is a stronger, heavier loom, with harness space for a 25-harness dobby of ⅜-inch gauge. It is built in one-hand only, with the dobby always on the left-hand side, opposite the battery, allowing setting the dobby 10 inches lower, to give a stiffer, stauncher loom. The dobby, like the loom, is built for high speed. For rayon weaves, it is equipped with a large diameter take-up roll with fine gearing and all other devices developed especially for rayon. The loom is built for a maximum speed of 192 picks on a 40-inch loom, but some weaves for which the XK model is built will not allow this speed. Like all of the company's high speed models, this loom is built of materials made to resist wear and breakage, and is finished with accuracy and precision. The fact that the speed has been built into the loom permits a desirable range of speeds according to the weave and desire of the mill.

The XL model is a high speed loom for broad sheetings. The drive and brakes are new, designed for high speed; the loom has been strengthened in many ways, and has a heavier lay and handrail to allow for operating a 90-inch loom at a speed of 125 picks or faster. A new design allows placing the cams on the cam shaft.

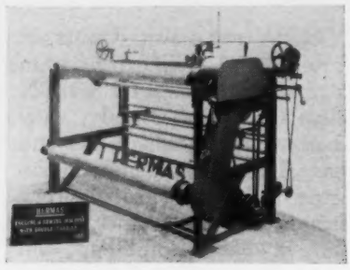
The C model rayon loom has been materially changed and improved as the result of developments in rayon weaving during the past two years.

The Stimpson twin groove shuttle with its twin thread track was developed to reduce trouble from all kinds of misthreads and filling breaks. The taper of the jacket of the Stimpson clutch spindle has been changed and a new spring tension devised. A new temple has been developed to prevent temple marks in weaving rayon.

Draper Corporation, Hopedale, Mass.

Duplex Sewing and Rolling Machine

A new duplex sewing and rolling machine, Model D C has been designed to operate in tandem with an automatic shear, but may be used in conjunc-



Rolling and sewing machine

tion with any machine from which the cloth is to be put up in roll form. The machine is duplex in action, being furnished with two separate take-up units, the one being used as a let-off, feeding cloth into another machine for a subsequent operation, while the operator is building up an extra roll on the other, making it unnecessary to transfer the roll from one machine to the other. Continuous operation is assured except for the few seconds required to sew the end of a new roll onto the one just finished. A variable speed motor drive, for any current, is used, and drives can be instantly transferred from one take-up to the other by means of a clutch. Ball bearings are used throughout with an adjustable brake and let-off, adjustable guide rod and revolving screw spreader. The machine measures only 34 inches from front to back. It has a capacity of 150,000 yards of cloth in forty hours. The sewing machine rolls automatically across the piece, sewing as it rolls.

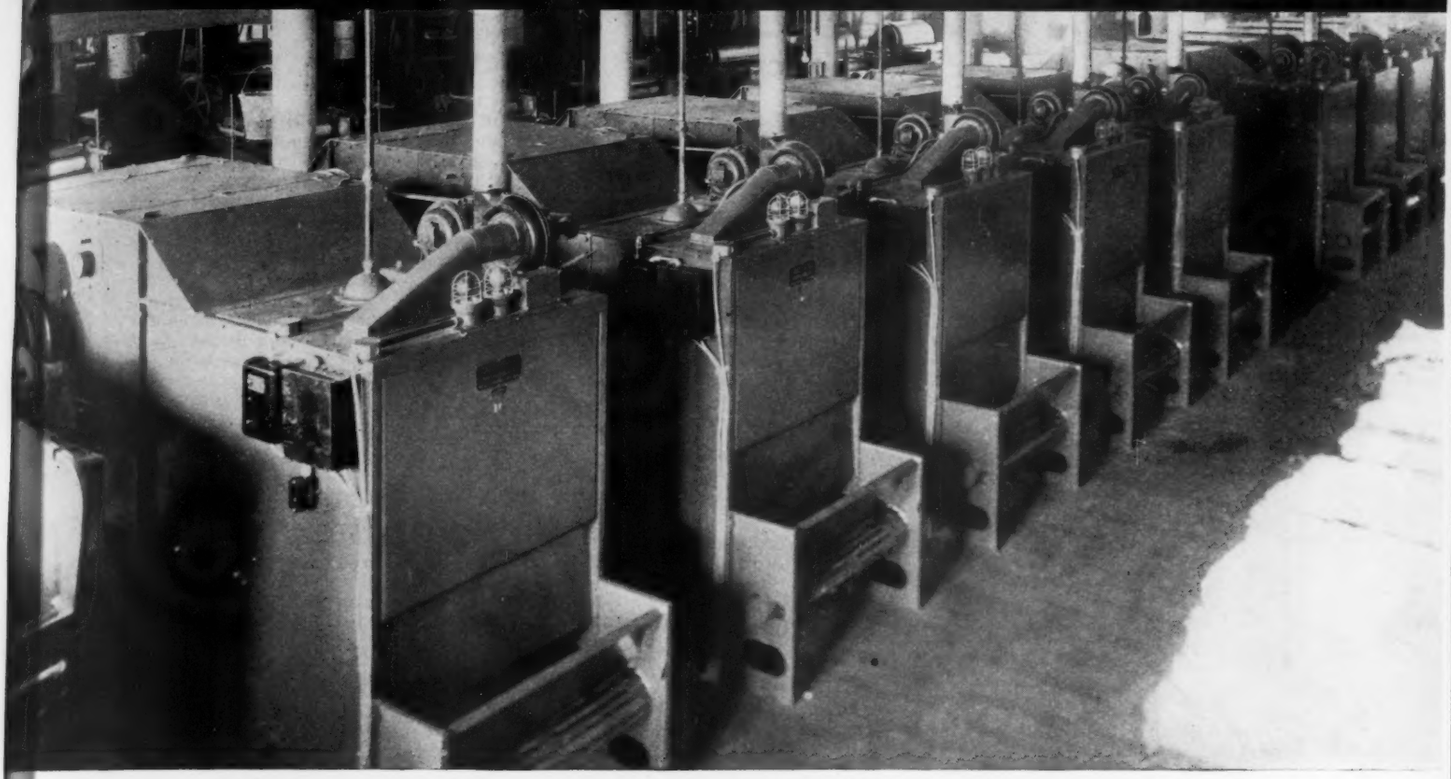
Hermas Machine Company, Hawthorne, N. J.

New Beam Warper

In the new EN warper, the beam is driven directly from the beam head, and, it is stated, the beam can be stopped quickly when operating at high speed without injury to the yarn; shiners are eliminated and the yarn does not become distorted. A quick-acting, self-energizing brake permits the operator to catch broken ends. The clutch is of the multiple disc type. An automatic movable reed is included.

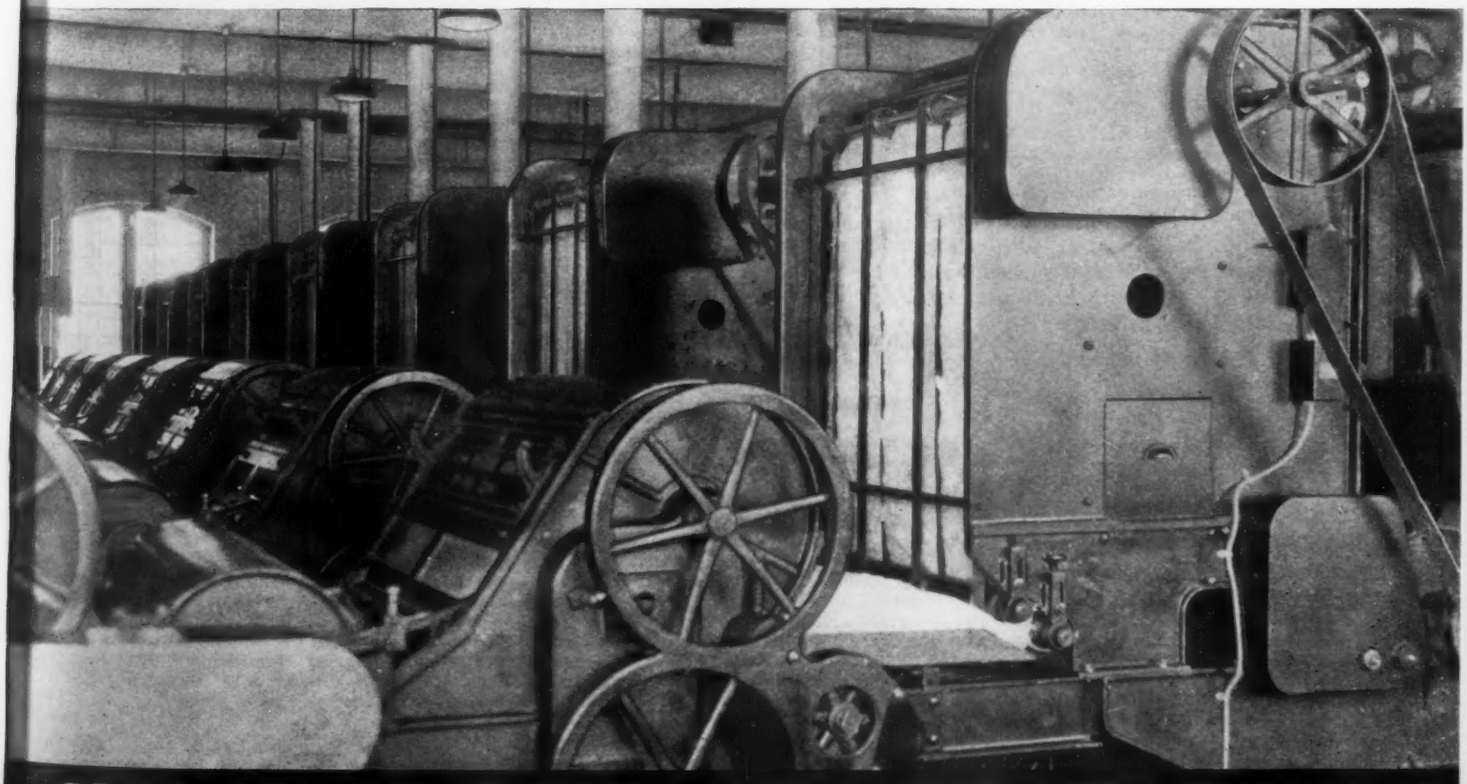
Sipp-Eastwood Corporation, Paterson, N. J.

SACO-LOWELL F-7 FEEDERS FOR BETTER BLENDING



Picker laps are never "good enough" until the yarn is "all right"

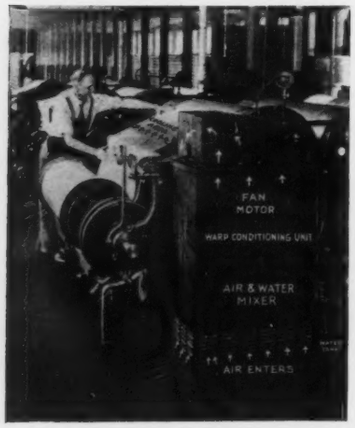
Realizing the importance of higher standards of stock preparation, still another successful mill adopts Saco-Lowell's Improved Opening and Picking. (Name of mill upon request.) These up-to-date installations have behind them Saco-Lowell's hundred-year experience as the outstanding builder of cotton preparation systems. Write for details to Saco-Lowell Shops, Boston, Charlotte, Greenville, Atlanta.



SACO-LOWELL CLEANING AND BLENDING RESERVES

Warp Conditioning Unit

A new warp conditioning unit has been designed for application to new and existing Johnson sizing machines. It is pointed out that with humidified air, this unit softens the size, prevent-



Warp conditioning unit

ing the difficulty of brittle warps in rayon and acetate weaving, and restores the warp to desired weaving conditions. The last cylinder may be run hot, speeding up production; and this unit facilitates the use of paperless beams so that double the amount of yarn may be put on the beam.

Charles B. Johnson, Paterson, N. J.

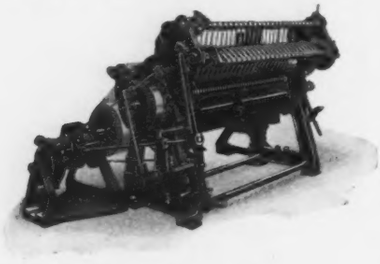
Warper Creel

A new creel, especially applicable for rayon, acetate and other synthetic yarns, provides over-end delivery on the magazine principle. The yarn balloons off of the package and any strain, instead of falling on the yarn itself, is applied to the tension which revolves. The result is that warps may be made now on a horizontal or direct beam warper at speeds of 320 yards as against 80 to 100 with the old type creel. A new tension has been developed making it possible to run raw silk at similar high speeds.

Sipp-Eastwood Corporation, Paterson, N. J.

Winding Machine

A new machine is designed for winding adhesive plaster accurately measured for yardage on flanged spools. The operation is semi-automatic. The operator puts in the rewind shaft, tucks the slit strips around the center of the spools and starts the machine by foot



Roll winding machine

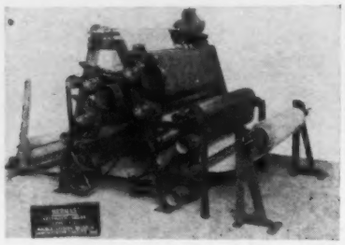
pressure on the clutch. The machine measures the web, slits it, rolls it up to the predetermined yardage for which the motion is set and stops automatically; a brake is applied automatically at the same time.

Two of four shafts in the machine at all times are held in reserve. At the end of the run, the operator turns the hand wheel, brings the two reserve shafts with the spools in the exact center for another run. The adhesive plaster is slit and attached to the spool. The two rewind shafts with the full spools are removed from the machine and two reserve shafts are placed in the machine, using a quick spacing aluminum shaft holder for the purpose; then the process is repeated. The cutters are easily accessible and quickly respaced. The new design permits increased production.

Cameron Machine Company, 61 Poplar St., Brooklyn, N. Y.

Improved Design Shear

A new type of shear has been designed of which the general contour is in the form of an A or inverted V. The machine is made in 48-inch size only, and may be put in tandem with roll-



Improved shear

ing and brush equipment to provide a brush and shear combination. Provision is made for the inspection of cloth after it leaves the first pair of knives. In a guard system for the knives, each pair of knives is enclosed in a suction hood which guards the knives completely.

Hermas Machine Company, Hawthorne, N. J.

New Cloth Room Machinery

An automatic shear to remove surface and selvage threads from cotton or rayon goods, at a high rate of speed, is designed for simplicity, convenience of operator, and floor space saving. The revolvers are individually motor driven, eliminating belting and bearing troubles; an automatic detector causes the revolvers to reverse direction of rotation instantly until a seam or foreign matter has passed; preventing cloth being caught or cut by blades. The cloth line is straight, producing less tension on goods, and is not disturbed, producing uniform tension. Cloth speeds of 80 yards a minute and more have been achieved successfully. The machine may be used as a separate unit or in combination with brushers; by using sewing machines and scrays, continuous operation is secured.

Railway sewing and rolling machines for making up large rolls have been resigned to give larger production and smooth running. This equipment has ball bearings and roller chain drives, and is made for either chain stitch or butted seam. The sewing machine head is motor driven, with measuring attachment if desired. The sewing machines are made to run with scray for continuous running if desired.

A small four-roll vertical brushing machine can be used with any combination of cleaning appliances in front of shear, where a mill has no brusher and floor space is limited.

A new type inspecting machine for silk and rayon goods uses a variable speed device for controlling the speed of goods. It has an adjustable tilting table and measuring attachment with stop device for counter.

Folding machines have been re-designed and improved for larger capacities. New models have been made for silk and rayon goods and for handling Sanforized goods. A new model of air folding machine has arrangement whereby movements of jaws and tables are controlled by compressed air.

Curtis & Marble Machine Co., Worcester, Mass.

Patent Beam Stands

A patent beam stand for storing beams away from the floor, preventing damage to warps, and resulting in time saving and minimum handling, is now being manufactured in this country. It originally is the product of John T. Hardaker, Ltd., of Bradford, England.

John T. Hardaker, Inc., 4th and Poplar Streets, Charlotte, N. C.

Horizontal Warper

The new DY horizontal warper runs sections at speeds up to 320 yards a minute. There is an improved Swiss motion to assure better warps. The warping tension is designed to make for smooth action, and brings the mill to a sliding stop to prevent overlapping and stickiness. Beam capacity is enlarged and the operator is insured a better working position. A section gauge makes for more accurate warps and eliminates section marks. A new beam mechanism is designed to prevent backing-up. The machine is automatic in action. A clock stops the warper for a broken end and indicates the exact spot in the creel where the break occurred.

Sipp-Eastwood Corp., Paterson, N. J.

Package Tying Machine

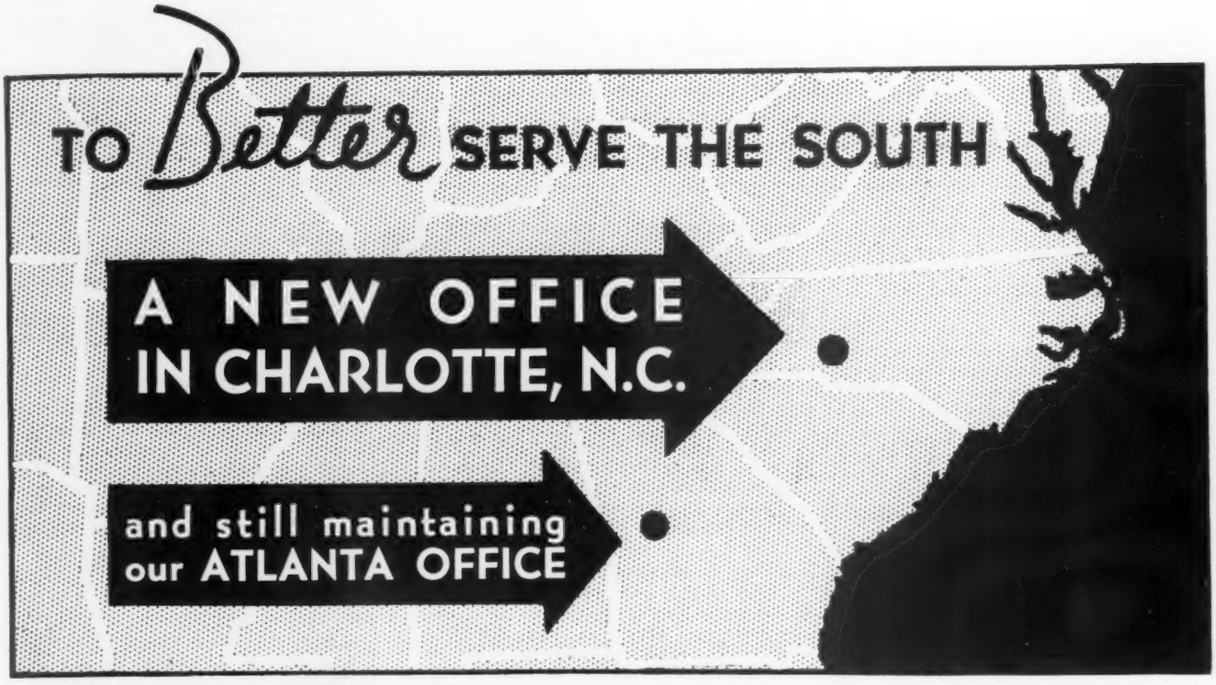
A new Manual-Cross-Tie machine has been designed especially to tie textile bundles. This machine will cross-tie a bolt of cloth, a package of pillowcases, sheets, towels, or other textile material in two seconds, with a tight lock knot, with no waste of string. There is no change or adjustment necessary to handle various size bundles, and it is possible to place a double wrap of string in one direction around the bundle. With this type of tie, the operator merely places the bundle in the machine, and holds the foot trip down until the arm has made two revolutions in one direction; the knot is automatically tied and cut.

B. H. Bunn Company, Vincennes Ave. at 76th St., Chicago, Ill.

Mill Sewing Machine

A modification in the "Coronation" sewing machine provides a needle lift or clearance of 1½ inches, providing a means of sewing bulky fabrics. This machine is either foot- or motor-driven and when necessary is fitted with an explosive proof motor and switch. The motor-driven machines are fitted with 25 feet of cable in a Reelite, so that all slack cable is kept wound up off of the floor. The motor is a 110 volt, single phase, 60 cycle for plugging into the ordinary lighting circuit.

Birch Brothers, Inc., 32 Kent Street, Somerville, Mass.



This latest sales and service office is a recognition of the steadily increasing importance of the cotton growing states as a center of the cotton manufacturing industry. Through it we plan to more quickly and more efficiently meet the service needs of customers in the Charlotte territory, and to more readily acquaint other mill executives with the advantages of the H & B modernized line of equipment.

This equipment includes the following:—

REMODELED OPENING AND CLEANING EQUIPMENT,

including new 30" Buckley Opener in single, double or triple units. This unit eliminates harsh treatment, aerifies the cotton and preserves its life, length and elasticity—restoring the bloom and equalizing the moisture content. Ideal preparation for single process picking.

SINGLE PROCESS PICKER

Over 99 percent productive efficiency. Two-fold method of evening (essential features of which are patented) and hunting tooth knock-off device. Widely adopted and a recognized leader in the trade.

IMPROVED MODEL DRAWING FRAME

Many refinements that collectively effect a worthwhile saving. Completely covered shafting makes for cleanliness and eliminates stoppage due to lint and dirt troubles. Rolls quickly adjusted. Newly designed tube gear. Readily accessible oiling points.

MODEL B SPINNING FRAME

A variety of features. Sturdily built to reduce vibration. Swivel hinge doors. New builder motion easily and quickly adjusted. All bearings and gears conveniently oiled from outside. New doffer locking device. Balanced ring rails. Dynamically balanced cylinders. Variable speed drive. Reversible tape drive arrangement. Large packages and high speeds.

4-ROLLER LONG DRAFT

The current trend indicates that the 4-roller system of long draft is unsurpassed in performance and that it is receiving more and more widespread recognition.

NEW DESIGN TWISTER

High speeds. Large packages. Proper clearance and even tension of yarn in the creel. Correct angle of pull from the feed rollers. Newly designed spindle with large whirl and large oil capacity. Correct ring diameter, depth and thickness. Light tension on tapes. Construction throughout provides for better twisting at lower cost.

H & B AMERICAN MACHINE COMPANY, PAWTUCKET, R. I.

BOSTON OFFICE
161 Devonshire Street

CHARLOTTE OFFICE
1201-3 Johnstone Bldg.

H&B

ATLANTA OFFICE
815 Citizens & Southern
National Bank Building

COTTON PREPARATORY AND SPINNING MACHINERY

Accessories and Supplies

Counters, rolls, measuring devices, brushes, levers, bunch builders, knotters, and many other attachments, supplies, methods and applications . . . . . .

Variable Speed Spinning Drive

In conjunction with the General Electric Company, a new variable speed spinning frame has just been marketed. The required mechanism is compact, automatic and so coordinated that the essential combination of speed changes, namely, change with the traverse of the ring rail and gradual change as the bobbin builds up in diameter, are accomplished without in any way changing the method of handling the frame by the operator. No setting of travel limits or resetting after doffing the frame are required. The drive consists of a screenless open textile motor, a regulating rheostat, a regulating arm designed to be an integral part of the spinning frame, and a standard primary magnetic control equipped with push button or shipper rod switch. The electrical equipment is accessible and conveniently mounted. Some of the advantages cited are more uniform twist in the yarn, greater elasticity, increased production, and fewer breaks in the loom.

H. & B. American Machine Company, Pawtucket, R. I.

Lap Weight Indicator

The Amco lap weight indicator is designed to provide regulations for the weight of picker laps to provide the same amount of cotton in each lap regardless of a varying moisture content. The instrument approaches the problem from the point of making proper allowance for the variable moisture content. It is factory calibrated to 6½ per cent regain. If the lap weight standard is 40 pounds with 6½ per cent regain, a chart segment appears at the bottom of the instrument, by setting, with the figure 40 in the middle. The indicator may be to the right or left according to the relative humidity of the day. The indicator shows what the actual weight of the lap on the scale should be at any time under different conditions. The instrument has an actuating element with hygroscopic qualities closely paralleling those of cotton, it is stated, which is not affected by temperature changes. It is totally enclosed and factory sealed.

Lap weight indicator

American Moistening Company, 260 West Exchange St., Providence, R. I.

Filling Grate Brush

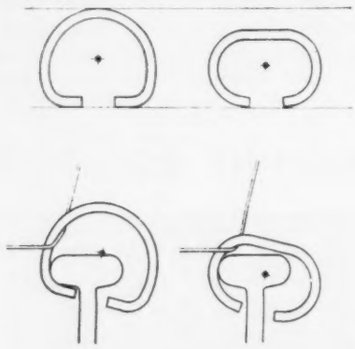
Among the new developments in an extensive line of textile brushes is a filling grate brush, to clean the filling grate on looms, in order to keep the filling grate clean for producing uniform weaving and preventing thin places in the cloth. This is especially applicable to looms on print cloths. The brush is solidly filled with heavy fiber; it is 8⅛ inches long over all; the trim is 4 inches.

Filling grate brush

Atlanta Brush Company, Atlanta, Ga.

New Traveler Design

A new principle of reduced metal at the bow area is applied to the Wentworth double duty, gravity, gravity express, and double-duty and gravity lowboy travelers. This design is used to assure greater balance in the traveler and permit a new and revolutionary heat treating, resulting in a greatly reduced frictional contact between traveler and ring, to guarantee longer traveler life, better running spinning and less wear on rings. These travelers, it is pointed out, are especially adapted to long draft spinning, higher speeds and larger diameter rings.



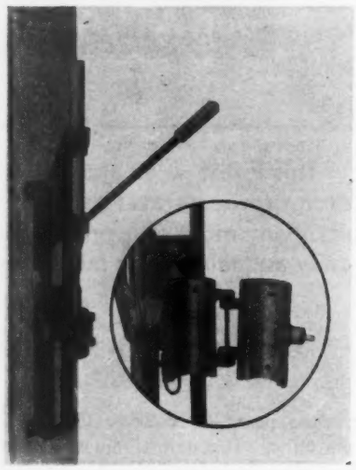
Showing respective centers of gravity in relation to ring flange; regular traveler at left, lowboy design traveler at right . . .

The Wentworth duplex bronze twister travelers are made to combine the advantages of the flat wire and the oval wire twister traveler into a single unit. The friction surface is flat, whereas the surface the yarn passes under is oval—to assure a more constant friction surface for the life of the traveler and a reduced friction surface for the yarn. These travelers are especially designed for tire cord and heavier yarns.

National Ring Traveler Company, 257 West Exchange St., Providence, R. I.

New Tail Stock Attachment for Cork Cot Assembling Machine

A new tail stock attachment is developed for the Armstrong cork cot assembling machine, designed to eliminate lengthwise compression of the cots during assembly. This device grips the cot firmly on its outside diameter over its entire length, holding it so as the roll is inserted. A positioning stop is provided for quick use, to speed up the operation with accurate positioning of the cot on the roll.



Cork cot tail stock attachment

Armstrong Cork Products Company, Lancaster, Pa.

Roller Leather Development

Included among new products are bark and chrome tanned long draft aprons and woolskin top clearers. Scientific and practical research have stepped up the wearing ability of ordinary sheepskin roller leather by approximately 40 per cent, it is stated; and a chrome tanned calfskin has been developed with the usual cementing difficulties eliminated.

Gill Leather Company, Salem, Mass.

Textile Tools

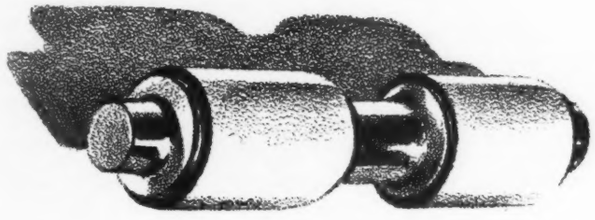
Special wrenches for specific applications for Draper and other types of looms are included in a new line of textile tools manufactured from chrome-vanadium steel. All of these wrenches and tools are drop-forged and carefully made to permit loom fixers to do fast and accurate work.

Bonney Forge & Tool Works, Allentown, Pa.

"Six frames have been running now for four months, and all their figures are consistently in our favor, so I won't have to do any selling here—the job is already done."

all because they're using

SPINNA CALF



A. C. LAWRENCE LEATHER CO.

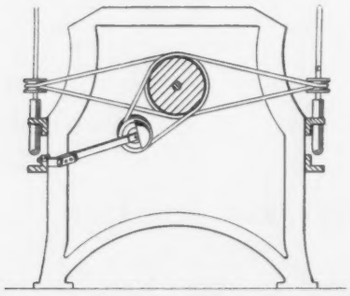
Specialists in Textile Leathers

BOSTON, MASS. PEABODY, MASS. GREENVILLE, S. C.

Fabric *Quality* begins with the *Yarn*

Band Tension Equalizer

A tension equalizer is designed for use on band-driven spinning and twister frames for driving four spindles with one band—to produce more uniform spindle speed, and eliminate slack twist and band slippage. Installation of the device requires only one $3\frac{5}{16}$-inch hole per unit of four spindles through the spindle ladder on the bottom rail; a frame may be equipped in approximately one hour. The pulley on the equalizer is precision balanced for high speed, with a wooden oil-less bushing. The supporting arm is ¼-inch by 1-inch heavy split fork type, and the angle bracket is slotted and is universally adjustable.



End view of band tension equalizer

Cotton Twine Banding Works, Huntsville, Ala.

New Seamless Cork Cot

An "Extra Cushion" seamless cork cot is made by a new process of cot manufacture, called the tubular process, by which the cork is compressed in small charges with uniform pressure released at the desired density. The baking of the composition requires heat penetration of only the thickness of the cot, insuring uniform density from end to end. It is claimed that these cots spin better yarn, reduce end breakage, improve Monday morning start-ups, work more satisfactorily on old equipment, handle more easily in changing numbers, and stand up better from the abuse of hard ends and top roll laps. The new cot is furnished with a new type of adhesive to provide a stronger and more fool-proof bond to the roll. The new glue is not soluble in water, an inexpensive solvent which will not rust the rolls being used.

Armstrong Cork Products Company, Lancaster, Pa.

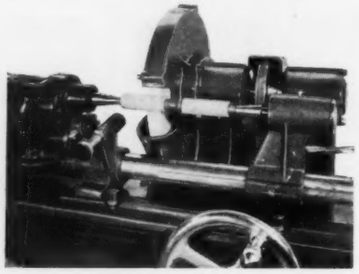
Penetration Roll

An unusual style of immersion or penetration roll for slashers has been developed, which, instead of being of solid circumference, is made of a series of small rods, and carries curved blades inside. This construction, it is pointed out, allows the sizing to boil all through the yarn, eliminating lumps in the sizing and preventing hard size spots. The curved blades cause the size to flow from the center of the roll, hastening penetration of the yarn. Increased slasher production without decrease of regain in the sized yarn, reduction of warp breakage in weaving through improved penetration of the yarn, and use of a lighter yarn or a reduction in the consistency of the size are among the claims.

Eagle Iron Works, Greenville, S. C. (Sales agents: Aldrich Machine Works, Greenwood, S. C.)

Improvements in Cork Cot Buffing Machine

Improvements during recent months in the cork cot buffing machine include a simplified adjustment for roll diameter, an index adjustment for roll diameter, a completely enclosed dustproof ways and oiling system, a new slow speed gear head motor, and elimination of vibration. The use of a hand wheel and tension spring for setting the machine for diameter replaces the old thumb screw adjustment and enables the operator to set the machine more quickly and accurately without locking the machine in position. The index adjustment for roll diameter permits the dressing of the abrasive wheel without changing the diameter of the roll being buffed, and insures accuracy of diameter without re-setting the machine every time the abrasive wheel is dressed.



Improved cork cot buffing machine

The enclosed dustproof ways and improved oiling system prevent the entry of dust and grit and provide an adequate flushing lubrication over the entire length of the ways at all times. The slow speed gear head motor permits a slow speed for the roll being buffed and a high speed for the abrasive wheel. The entire machine has been strengthened, and precision Timken bearings are used throughout.

Armstrong Cork Products Company, Lancaster, Pa.

Roller Covering

Production of a new covering for textile top rolls, made from a compound based on synthetic rubber and called "Everlastic", has been announced, following several years' test under mill operations. The roll, it is stated, does not flute, but is resilient enough to snap back where depressed, will draw evenly, is uniformly dense throughout, and its hardness is changeable at will in compounding; it does not oxidize, and is unaffected by changes in temperature and humidity. It is offered in varying degrees of hardness for all textile roll and apron applications.

Roger W. Cutler, 141 Milk Street, Boston, Mass.

Machine for Long Cork Cots

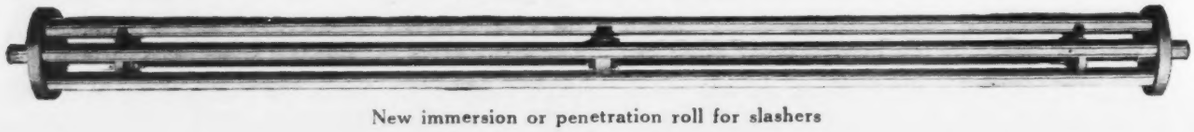
An assembling machine for the new extra cushion cork cot made in one piece, for drawing rolls, ribbon or sliver lap or comber rolls, consists essentially of two parts: A cavity or clamp in which the cot is placed, and a cylinder with a plunger connected with a compressed air line. The top is first placed in the cavity and the lid clamped down, holding the cot firmly and eliminating any tendency for compression. The roll is then placed in position and a turn of the compressed air valve forces the plunger forward, engaging the roll and pushing it into the cot. An adjustable screw stops the roll when the cot is correctly positioned.

Three views of machine for long cork cots . . . . . .

Armstrong Cork Products Company, Lancaster, Pa.

Controls for Slasher

In an electrical control system developed for slashers, the pressure in the header supplying steam to the drying cylinders of each slasher is maintained at a constant low pressure by a sensitive pressure controller operating a throttling motorized steam valve. The time-temperature cooking cycle of each kettle is automatically controlled with a temperature recording and controlling instrument and two adjustable process timers operating a motorized steam valve. The temperature in the storage kettle is automatically maintained with a temperature controller and a motorized valve. A sensitive temperature controller is used with a throttling motorized steam valve to insure constant temperature and viscosity conditions in the size box. A level controller operating a motorized size valve maintains the size level regardless of changes in temperature. A moisture content controller regulates the speed of the slasher, with a ball bearing electrode in contact with the yarn which measures the moisture just prior to winding the sized yarn on the beam. The controller through relays



New immersion or penetration roll for slashers

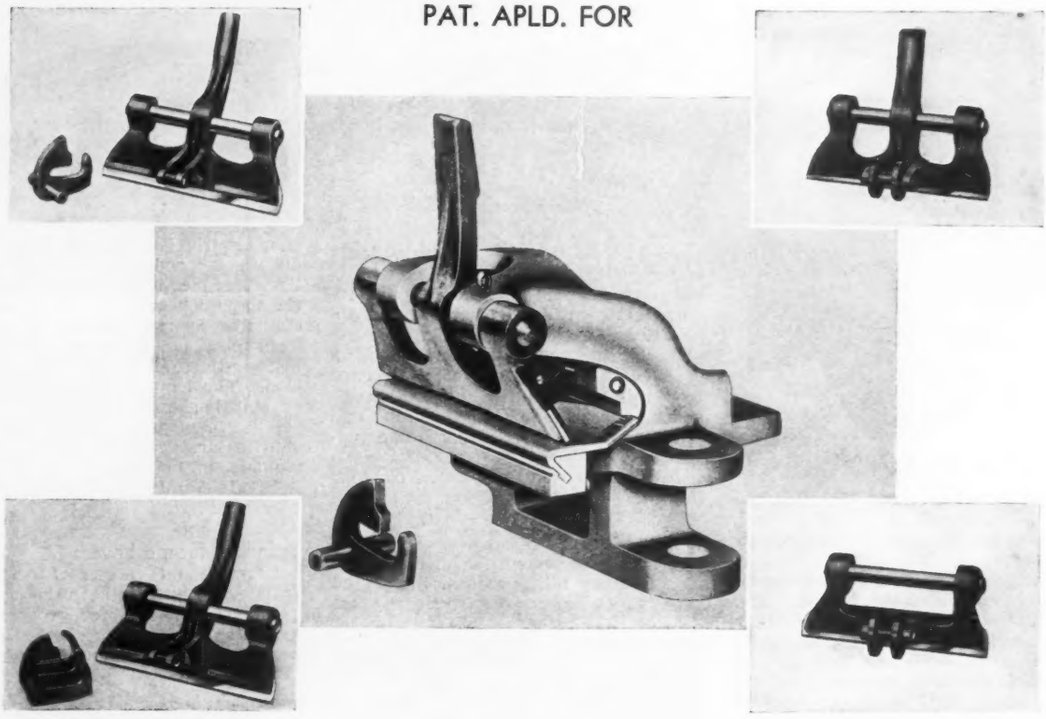
SAVE 20% COST

ON INITIAL TENTER CHAIN INSTALLATIONS

EQUIP WITH

Textile's NEW RIVETLESS PLATE TENTER CLIPS

PAT. APLD. FOR



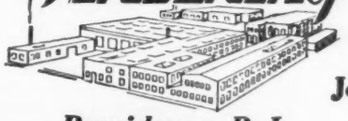
This new clip is made from one of Textile's latest standard patterns including all the patented features, the latest of which is the new method of securing the plate to the body of the clip, resulting in a substantial saving in manufacturing cost and enabling Textile to offer this first quality, quick action Tenter Clip with stainless steel plates and inserts at an attractive saving in price to the trade.

The New Rivetless Plate Tenter Clip can be fitted with any type of controller, top or face opening gate with fixed or floating insert as shown in the illustrations. These New Clips are interchangeable on other makes of recently designed tenters.

Textile's nearest office will be glad to give full particulars with recommendations and prices.

The Textile Finishing Machinery Co.

New York Office
50 Church St.



Southern Office
Johnston Bldg., Charlotte, N. C.

Providence, R. I.

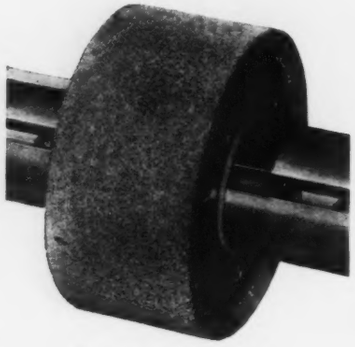
Manufacturers of Machinery and Equipment for
SINGEING, BLEACHING, MERCERIZING, DYEING, DRYING, PRINTING, FINISHING
and SANFORIZING TEXTILE FABRICS

supplies current to a reversing motor which operates the belt shipper of a variable speed cone drive. Baked yarn passing under the moisture controller after a shut-down or slow speed operation has no effect on the control circuit.

Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

Solid Wheel Traverse Grinder

A solid vitrified wheel traverse grinder for card grinding has a grinder shell built with 3-inch diameter extra heavy walled seamless steel tubing. A solid self-oiling hub is mounted with solid vitrified wheel. The shell and solid hub are perfectly balanced independently of each other. The internal screw is of specially selected steel. Head bearings are hardened and externally ground. The journal head is internally ground. The steel dog and dogholder are specially forged. The solid vitrified wheel is of a texture that much side or plough grinding is effected. It is explained that in this new wheel, the texture opens up, and instead of the cutting points wearing smoothly, the knit of the wheel constantly changes, bringing out more cutting points to replace the worn points as it grinds. The wheels are unaffected by moisture and may be cleaned with any available liquid solution.



New traverse grinder

B. S. Roy & Son Company, Worcester, Mass.

New Card Clothing Foundation

The development of a new foundation for card clothing, designed to eliminate the necessity of re-drawing, is announced. It is made by the use of a special patented flax or linen warp of cord construction, and a special process of fastening the plies together.

Wickwire Spencer Steel Company, 41 East 42nd St., N. Y. City.

Ne-Bow Vertical Ring Traveler

A new vertical ring traveler, the Ne-Bow, has been designed for silk and rayon throwing on the vertical ring. The traveler is designed to follow in parallel the inner peripheral surface of the ring, assisted by the forces directed upon it, the upper horn being directed toward the upper outer peripheral surface of the ring. This prevents the pivoting of the traveler at the bend of the shank, it is explained, keeping the traveler in close contact with the groove or device for lubricating the ring and assisting in drawing the lubricant therefrom and distributing it evenly over the entire inner surface of the ring. At rest, the traveler locks on the outer upper surface of the ring to prevent unthreading of the end due to high twist.

U. S. Ring Traveler Company, 159 Aborn St., Providence, R. I.

Graphited Bronze Saddle

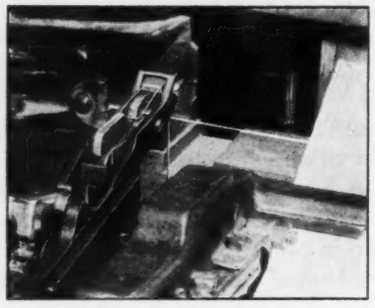
A new type of spinning frame saddle involving the use of graphited bronze bearing, has been developed. It is stated that tests showed 5,000 continuous hours without lubrication and no sign of wear. The combination of bronze and graphite in the bearings, it is pointed out, retains the necessary bearing characteristic and provides the required lubrication. Other bearing applications developed to involve the use of this graphited bronze include picker evener shafts, card top flats, card feed roll drive shafts, feed rolls, calender rolls, coiler shafts, spinning cylinders, loom rocker shafts, loose pulleys, etc.

Graphited bronze saddle

Johnson Bronze Company, New Castle, Pa.

Filling Motion

A new attachment for looms is the 20th Century filling motion illustrated here, which operates without the use of a filling grate and is designed to reduce the amount of thin places materially.



Filling motion without grate

Bahan Textile Machinery Co., Inc., Greenville, S. C.

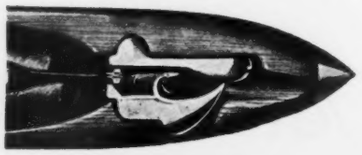
Adjustable Temple

A new 3-roll adjustable temple has been developed, which is regulated to hold the most shrinkage as well as the most delicate fabric. The temple is equipped with rubber cord combination corrugated temple rollers, the top surface of which is cord, and the rubber acts as a cushion underneath but does not get in contact with the fabric it holds. The temples are applicable to any type of loom, and are equipped with a new patented thread cutter for automatic looms.

Silk City Metals Coating Co., Inc., 323 Market Street, Paterson, N. J.

Tension Shuttles for Silk and Rayon

Two new tension shuttles for silk and rayon have been developed to provide positive and uniform tension on the first pick and every pick in weaving silk and rayon. The Jackson tension shuttle is designed to speed silk and rayon production since it is a positive threader and gives full tension on the first pick and every pick in bobbin changing looms, eliminating loose and tight picks or scalloped selvages and being adjustable to any degree of tension. The Unit tension applies to box or shuttle-changing looms, eliminating the use of mops, pads, felts, etc. Both shuttles are available in dogwood, persimmon, or fiber-clad.



The Jackson tension

The US unit tension

US Bobbin & Shuttle Company, Manchester, N. H.

Spinning Frame Levers

Levers and hooks for spinning frames, designed to keep the levers in a horizontal position for proper weighting, have been developed. Larger bearing surface on the new levers is to reduce wear. The construction of the lever at the point where the stirrup rests is designed to prevent the stirrup from being forced forward against the steel roll.

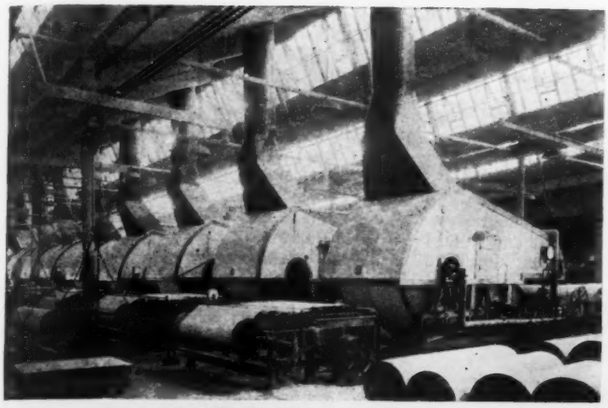
New spinning frame lever

M. & M. Textile Lever Co., Box 1572, Greenville, S. C.

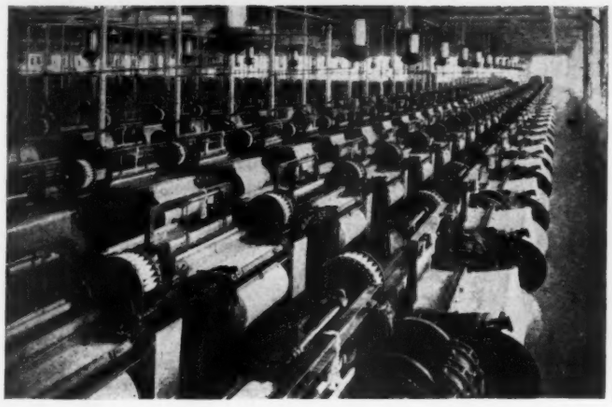
Size Check-Up Test

The research department has inaugurated warp size check-up tests for supplying cotton mills with a complete laboratory report on the performance of a sized warp. It shows exactly how much size has been added to the warp and what increase in the strength of warp has been due to sizing, and enables a mill to determine whether they are obtaining a balanced size formula, thereby getting all the size they should on the warp, or whether they are wasting starch and other sizing ingredients. Recommendations as to process equipment such as temperature control, etc., are also given.

E. F. Houghton & Company, 240 West Somerset St., Philadelphia, Pa.



Good Starch that Saves Time and Labor Here Will Increase Production and Quality Here



THE question of starch is considered too lightly, and does not receive the thoughtful consideration it deserves in many textile mills. As long as the starch is not full of lumps and trash, and is fairly uniform, they take the shedding, varying yarn strength and loom stoppages as a matter of course. The use of "just starch" has not only wasted time and labor in the cooking, but has decreased weavability and quality, and increased production costs at the loom.

The quality and uniformity of your starch is of utmost importance to you. You can not afford to neglect it. But if you want to forget the starch question and be absolutely SURE always of getting the highest quality starch that your money can buy, which is UNIFORM, bag after bag, carload after carload, year after year—then let STALEY worry about your starch problem.

You Can Always Depend on Staley Starches.

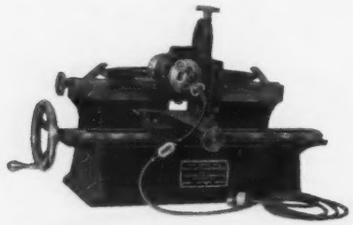
STALEY SALES CORP.
DECATUR, ILLINOIS

New York City	Atlanta
Boston	Spartanburg
Philadelphia	Chicago
San Francisco	Dallas

Staley's Starches

Shuttle Truing Machine

A shuttle truing machine has been developed employing the end milling type cutter exerting no pressure on the walls of the shuttle. No blocking or bracing is required. The main cutting tool is tipped with tungsten carbide:



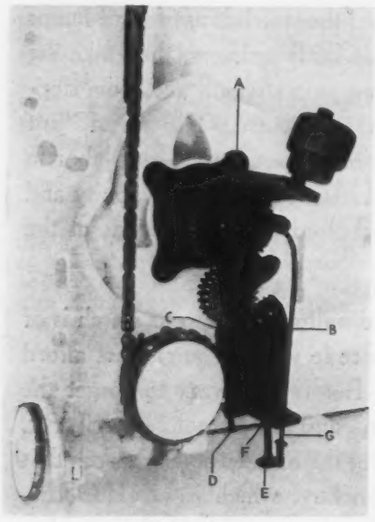
Shuttle truing machine

the grooving tool and the feeler slot tool as well as the bottom groove tool are all of high speed steel. The overall measurements of the machine are 30 inches long, 12 inches wide and 17 inches high. The machine is designed to true shuttles end-to-end with relation to tips, and match shuttles accurately for box work. It is applicable to both fiber and wood shuttles.

Textile Specialty Company, Inc., Greensboro, N. C.

Feeler Bunch Builder

A new spinning bunch builder is designed to provide more accurate control with reduction in waste. It is a compact unit, incorporating all necessary cams and levers for producing a



New bunch builder

bunch that may be varied from ¼-inch up to ¾-inch in width, with from 3 to 15 yards of yarn on the bobbin. The mechanism is positive and automatic and may be applied to frames equipped with either filling or a combination builder.

Whitin Machine Works, Whitinsville, Mass.

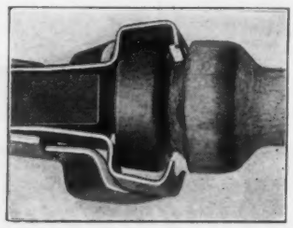
Wood Sheaves for Looms

Wood sheaves for looms have been developed embodying the Nolu impregnated wood bearings. These bearings are impregnated with a private formula, not oil-soaked, and provide sufficient lubrication for a long time. They are used also in block bearings, tension saddle bearings, detaching roll bearings, and special bearings for Brownell twisters.

Nolu Oilless Bearing Company, Germantown, Philadelphia, Pa.

Shuttle Improvement

An automatic expanding ear clip catch has been developed for fiber shuttles to produce longer life on metal tubes and wooden bobbins on high

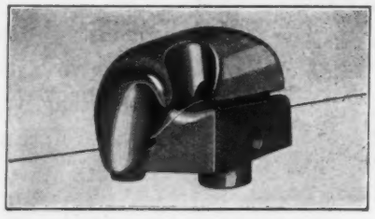


Expanding ear clip catch

speed or new type shuttle changing looms. This ear clip catch is designed to protect the base of the tube or bobbin, and also to hold the tube or bobbin tightly in place.

A new line of fiber shuttles are air-dried dogwood, and are packed 12 to a box, already weighed and inspected for instant use on the loom.

A one-piece cast-iron eye for automatic shuttles has been developed, eliminating all pins, bushings and movable parts. The manufacturers ex-



One-piece cast-iron shuttle eye

plain that its construction permits the filling to hug the metal, thereby creating continuously even tension and holding the filling down in the thread groove on the second pick without allowing it to hop or jump out.

Watson-Williams Co., Millbury, Mass.

New Drawing Roll Covering

"Texalox" is a new product created for drawing roll applications. It is a strong, flexible cloth backing coated with a myriad of evenly coated granular particles, uniformly coated on the cloth backing. Then this coated surface is covered with a light coating of metal covering up any sharp, protruding points, and resulting in a rough, but not sharp surface presenting a constant friction or gripping action. It has found special application for loom sand roll covering.

The Silk City Metals Coating Co., Inc., 323 Market Street, Paterson, N. J.

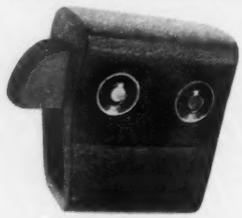
Slub Catcher and Tension

A slub catcher and tension is being introduced in two styles; one with the tension combined with the slub catcher for use largely on Foster winders, and a separate slub catcher for use on spoolers or other installations where tension is not required, or where tension is used separately from the slub catcher. In a recent improvement, the separate unit is modified, so that the blades are longer and the top portion of the blade holder is beveled off more sharply to make for easier threading. The longer blades permit use on spoolers operating on spools with 4- and 5-inch heads.

Collins Supply & Equipment Co., 1355 Monsey Ave., Scranton, Pa.

Loop Picker

A new type of leather loop picker known as "Owl-Eye" is made with or without hair, in types suitable for various requirements. Precision methods



New loop picker

by which the pickers are molded, together with the construction and the stock used, provide especially long service life, it is stated.

Chas. A. Schieren Company, 31 Ferry St., New York City.

Knotter for Rayon

Two new knotters for tying rayon have recently been developed for use where re-drawing, winding, copping, etc., of rayon is handled. The knotters are designed particularly to increase

Knotter for rayon

production, eliminate stains from perspiration and dirt, and to produce uniform weavers' knotters. They produce the same knot as tied on the standard Boyce weavers' knotter.

Mill Devices Co., Inc., Gastonia, N. C.

Bobbin Stripper Improvements

Among the improvements to the Type K bobbin stripper are: a new stripper blade assembly to reduce the possibility of damage to bobbins; an attachment for blowing out bobbin bores to provide both inside and outside cleaning; adjustable head supports to permit accurate centering of bobbin barrels in stripping position; a waste blower for blowing waste away from the blades in the waste chute, especially applicable on rayon waste; an improved pull head which is simple in operation and more easily adjusted and more durable; keying of stripper arms to the stripper shafts, to prevent their slipping out of position regardless of the amount of pressure on the stripper blades; an adjustable push-head; an

Why Are the Vast Majority of Cotton Mills Covering Their Rolls with Leather?

It is because they know from long experience that there is no question about the results to be obtained on leather.

There are hundreds upon hundreds of substitutes for leather, each of which once promised to be "The Perfect Covering". However, all of them in some respects were found to be inferior or impractical, and leather still rules supreme as the overwhelming favorite.

Leather has been doing good work for 150 years and will continue to do so. Yes, it will wear out, but that's all one can say against it.

If you want the best leather—**specify**

GILL LEATHER

SHEEP OR CALF

—It's low cutting figures and extra long life will reduce your Roller Bill.

GILL LEATHER COMPANY, SALEM, MASS.

Southern Representatives:

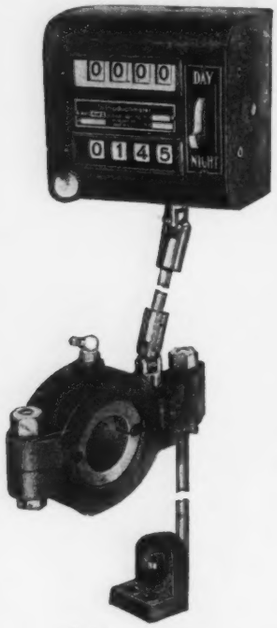
Gastonia, N. C., W. G. Hamner. *Griffin, Ga., Belton C. Plowden.*
Greenville, S. C., Ralph Gossett. *Greenville, S. C., W. J. Moore.*
Dallas, Texas, Russell A. Singleton.

improved plunger assembly to prevent slipping of bobbin barrels regardless of the position occupied by the bobbin in the feed chute; improved gear guards and a new guard to cover the clutch; a strengthened and simplified feed chute; provision of access to the interior of the chute without removing one side of the chute from the machine; a bobbin elevator to catch the cleaned bobbins as they are discharged from the machine and raise them high enough to be dropped into filling boxes of standard height; and refinements to improve and simplify the operation and adjustment of the wiper attachment.

The Terrell Machine Company, Charlotte, N. C.

New Pick Counter Design

In a new design of loom pick counter, the drive shaft comes directly in the center of the counter, to make it possible to use the counter on either end of a loom. The day-night shift switch is located on the front of the



Pick counter

counter, designed to be readily operated whether or not the loom is in operation. The dial figures have been given greater visibility; by a positive lock of new design the dials are prevented from creeping when the other set is running or when the counter is in neutral. The drive clamps readily on the loom shaft without drilling holes or removing any part of the loom, through the split worm and housing type of loom shaft connection.

Durant Manufacturing Co., Milwaukee, Wis.

Finishing Materials

With a textile use as a dye mordant, water repellent and anti-mildewing agent, Niacet aluminum acetate has been developed; Niacet iron acetate liquor is approximately a 12 per cent solution of ferrous acetate made from pure acetic acid and iron turnings, this method of manufacture insuring the absence of iron sulphate and iron chloride—the inorganic impurities being limited to those in ordinary city water. This is used also as a mordant.

A product known as Acetamide has found application in dissolving difficultly soluble dyestuffs before addition to the dyebath, eliminating discoloration of fabrics due to particules of undissolved dye in the dye vat. Acetamide is also used as an activator in bleaching baths.

Niacet Chemicals Corporation, Niagara Falls, N. Y.

Loom Supplies

A complete line of loop pickers, lug straps and hold-ups for looms has been developed. The loop pickers have moulded shuttle point holes of the proper shape and size, and the loops

Loop pickers

are tapered to fit the stick. There are no lefts or rights, these pickers fitting either side of the loom. They may be stored for long periods without deterioration, it is pointed out. The lug straps are vulcanized under high pressure to assure a high fabric content. They are bonded with a special rubber composition which in itself has high tensile strength and does not become brittle when flexed. The composition is not attacked by high humidity, it is stated. The fabric is built up, layer-by-layer, in the curvature of the finished strap, so that each layer bears its full part of the strain. This construction, it is pointed out, prevents wrinkling and stretching. The rocker arm straps are lined with oil-proof material of high bearing qualities. In addition, the inside of these straps is processed to receive and hold oil and thus form a bearing to remain sleek and lubricated. The hold-ups are die cut, and are uniform in shape, composition and hardness, not affected by high humidity, and may be stored for long periods without deterioration, and will not cut lug straps, it is stated.

Denman Tire & Rubber Company, Warren, Ohio.

Portable Turning Machine

Improvements have been made in the portable self-contained precision-built turning machine, designed to re-turn card cylinder shafts without dismantling the card except to remove the pulleys and the old bearing from the shaft to be re-turned. It has been improved to be applied by direct drive or right-hand drive.

Mechanical Equipment Co., Atlanta, Ga.

Draining System for Slasher Cylinders

A rotary syphon system for draining slasher cylinders has been announced which drains the slasher cylinders by syphoning the condensate through a patented rotating valve. There are three syphon types for each cylinder which discharge six times per revolution. One new feature relieves all the dead air in the cylinders, heating a cold cylinder to operating temperature in less than three minutes, it is stated; another new feature is a device that permits complete drainage at any pressure or with no pressure in the cylinder. No traps or buckets are used in this system.

Atkins Appliance Corporation, 505 North Main Street, Palmer, Mass.

Fiber Head Spools

In a new twister spool, the heads are made of hard vulcanized fiber, with a barrel of hard rock maple and bushings of dogwood.

H. & P. Spool and Bobbin Company, Lawrence, Mass.

Constant Level Oil Control

A constant level oil control has been developed to automatically maintain a constant oil level in ring oiled bearings or anti-friction bearings suitable for oil bath lubrication. It feeds only enough oil to maintain the required

Constant level oil control

level, and as long as any oil shows in the glass bottle none need be added. The device operates on the liquid seal principle, feeding only when the oil level in the bearing drops below the end of the shank, breaking the liquid seal and permitting air to enter the bottle.

The Lunkenheimer Company, Cincinnati, Ohio.

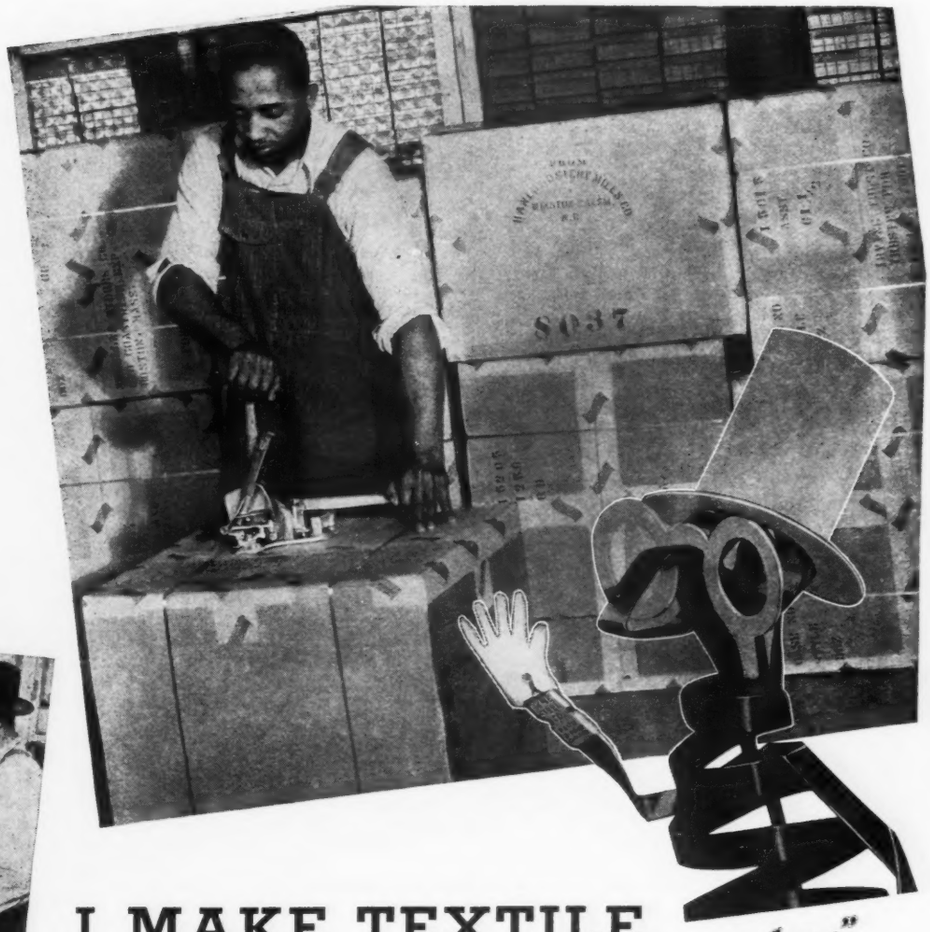
Bakelite-Head Bobbin

A combination bakelite-head bobbin recently announced has the inner part of the head made of paper base Bakelite, remaining glassy smooth, and the outer layers are of fabric base Bakelite to add needed strength. These bobbins are made in all types, including steaming, 5-B, twister, and take-up bobbins.

Merkel Bobbin Company, Allentown, Pa.

Kaumagraph Developments

New compositions and colors have been developed for Kaumagraph dry transfers, these being made applicable to new fabrics and finishes, in compositions not unfavorably affected by the chemistry of the fabric or changes brought about by laundering. These dry transfers are available for distinct and attractive marking of fabrics in all textures from fine to coarse; they are adaptable to treated and composi-



Faster work, stronger bales, better looking bales, with Acme Bale Ties and Seals.

I MAKE TEXTILE SHIPMENTS "Bound to get there" ECONOMICALLY

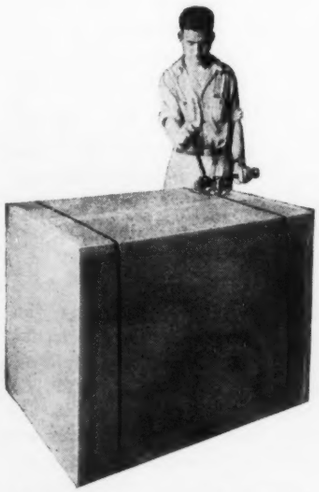
All you folks shipping textiles—whether in bales, cases, or what not—can save some money! That is, if you're not already using Acme Steelstrap. Hundreds of mills have been using this reinforcing band for years.

Scientifically administered, Acme Steelstrap permits the use of lighter "packages" without sacrificing strength. Closure of packages can be speeded up, better looking shipments obtained.

And now, I'm wrapping Steelstrap in a patented, waterproof package called "Acme Annular Wrap"—so that it reaches you perfectly clean. Soiling of products is avoided.

Write me about your shipping packages. I'll be pleased to send you tools, seals and strap for trial. I can show you the way to make your products "Bound to get there" economically.

Doc. Steelstrap



Corrugated boxes are made snug and strong—to carry as much as 200 pounds of textiles—with Acme Steelstrap. Wood cases, too, are benefited by my Steelstrap treatments.

Acme Steelstrap

ACME STEEL COMPANY · GENERAL OFFICES: 2847 ARCHER AVE., CHICAGO

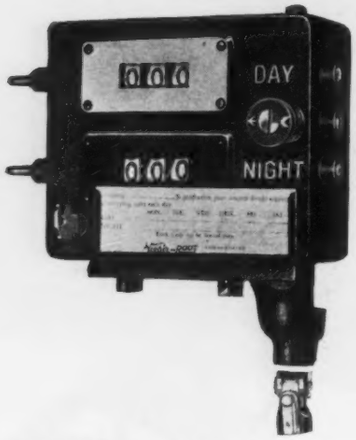
ATLANTA · NEW ORLEANS · SAN FRANCISCO · BOSTON · BROOKLYN

tion fabrics; for manufactured articles such as hats, sweat shirts, tennis balls, neckwear, etc. They can be furnished to provide dye resist, semi-permanent or temporary identification. Automatic machinery makes economical application possible; and in most cases automatic applications may be a part of one of the finishing operations.

Kaumagraph Company, New York City.

Improvements in Counters

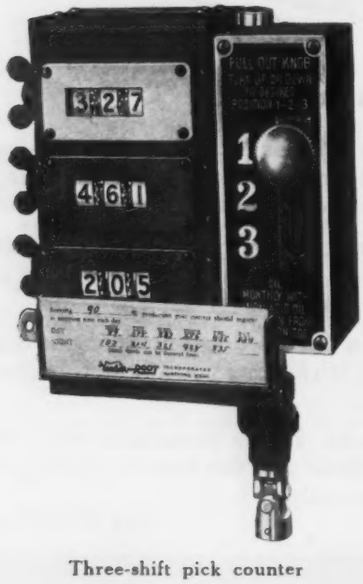
Improvements in the two-shift, resetting pick counter include refinements in the design of the worm and worm-gear to provide greater strength and reduce wear. The reset lock has



Two-shift re-setting pick counter

also been moved to the front of the counter for convenience, and the entire resetting mechanism has been improved to make it tamper-proof.

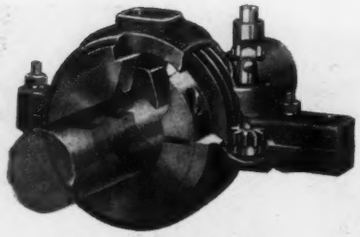
The three-shift pick counter has been made tamper-proof, and its operation



Three-shift pick counter

made easier by several changes in the mechanism.

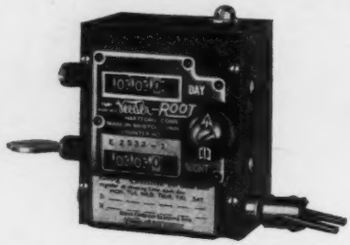
The new compression clamp eliminates drilling into the loom shaft to attach the worm for driving the counter. The device employs hard steel clamps with sharp teeth that bite into the loom



New compression clamp

shaft. The two halves of the worm are simply drawn up tight, forcing the teeth of the clamps into the shaft, making slipping impossible.

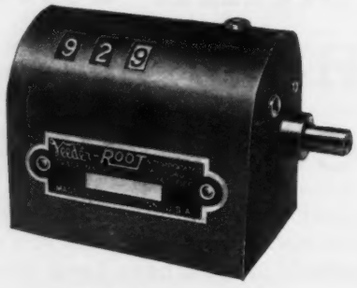
The two-shift resetting hank counter makes it convenient to pay operatives by the hank. A production chart



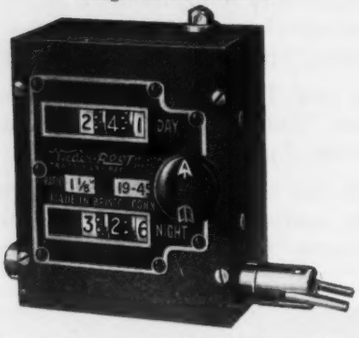
Two-shift re-setting hank counter

on the counter shows the production expected from the machine. The counter has a locking mechanism which resets and locks the counter in one operation. It has the tamper-proof features of the pick counter, including seals making it easy to detect any attempt at tampering.

A change in the driving mechanism in the single hank counter has been



Single hank counter



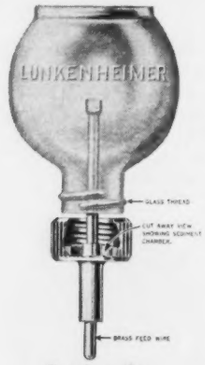
Two-shift non-resetting hank counter

made to make servicing easier and less expensive; and more durable material is used in many of the parts. A number of changes have been made in the specifications of materials making up a number of parts in the two-shift, non-resetting hank counter to increase wearing qualities and prolong the counter's life.

Veeder-Root, Inc., Hartford, Conn.

Bottle Oiler

A new design of bottle oiler is made up of three major parts—glass bottle with threaded neck, bronze base with integral sleeve type shank, and brass feed wire. A thick resilient cork washer seals the joint between bottle



Bottle oiler

and base. Two principles are involved in the feeding of oil down the feed wire of a bottle oiler: what might be called "Thermal Breathing", a periodic expansion and contraction of the air within the bottle due to changes in temperature; and "Capillary Creep", aided by the agitation of the feed wire when the shaft is in motion.

The Lunkenheimer Company, Cincinnati, Ohio.

All Steel Box Truck

A new all steel box truck is designed smooth on the inside, with no rivets, bolts, etc. It is constructed of 20-gauge sheet steel sides and ends, and 18-gauge sheet steel bottom, formed and securely welded to the bottom of the truck. The chassis is bolted to the underneath of the truck.

Stackbin Corporation, Box 940, Providence, R. I.

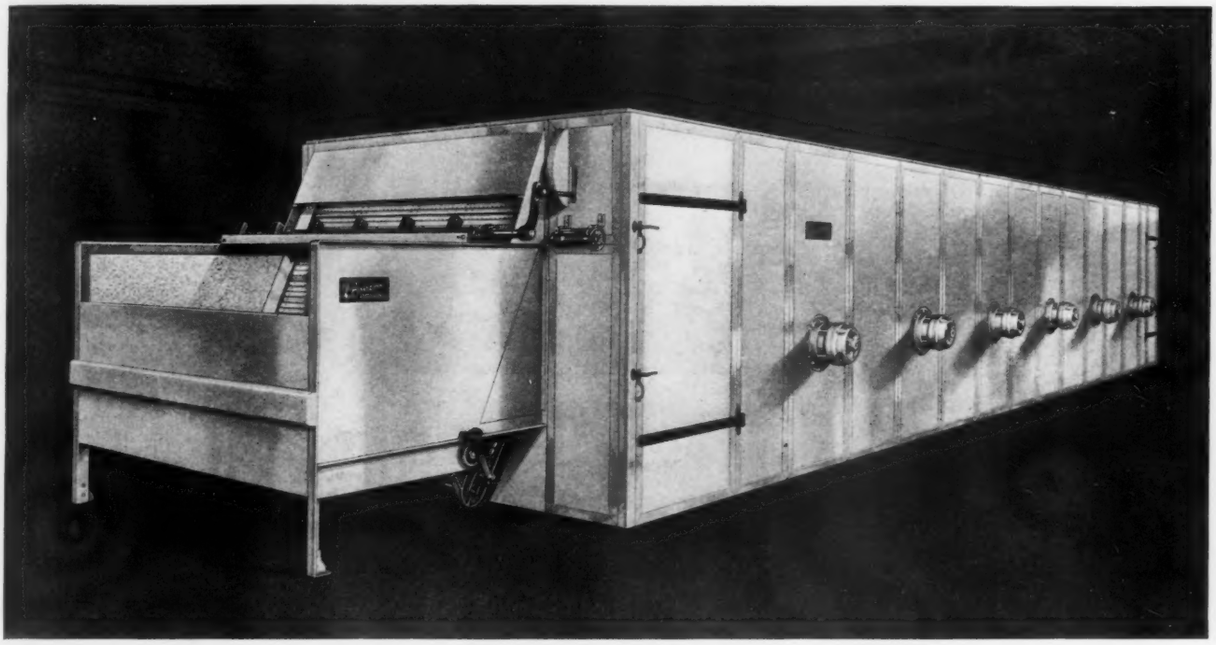
Condor V-Belt Construction

The Manhattan Rubber Manufacturing Division of Raybestos-Manhattan, Inc., Passaic, N. J., have issued a new bulletin, No. 6840, describing and explaining the details of the construction of Condor v-belts. Numerous diagrams illustrate the technical data of interest to v-belt users.

Solvay Opens Two Offices

Solvay Sales Corporation has announced the opening of two new branch offices, one in the Johnston Building, Charlotte, N. C., and the other in the Petroleum Building, Houston, Texas. These new branches are established in the interest of greater efficiency and better service, and the expansion involves no change in the company's present distributing representation in these territories.

HIGHER OUTPUT - BETTER QUALITY - LOWER COST



The New PROCTOR Super Dryer

A Paying Improvement In Stock Dryers

Bulletin No. 166, just off press, illustrates and fully describes the new Proctor Super Dryer and its many advanced features and advantages. Why not write for YOUR copy?

The first Proctor Super Dryer was built in 1923, the fortieth year of Proctor experience in building drying machines for industries. The advantages of the new design over all others were quickly recognized. Installations were in demand at once . . . and these brought about a revolutionary improvement in the drying of wool and cotton stock, linters, rayon waste, silk waste, carbonized and washed rags as well as a diversity of other materials. From the start, the Proctor Super Dryer has outshone and outsold all others. More important, succeeding installations have seen the Super Dryer steadily and greatly improved.

Today, with direct motor drives, variable speed control, hinged-girt conveyors with traveling side guards, increased insulation of panels and framework, and other improved details of design and construction throughout, the New Proctor Super Dryer is higher than ever above comparison . . . the machine best suited to today's needs of maximum hourly output, highest possible quality of product, minimum cost of operation and dependability of performance that means uninterrupted working schedules.

PROCTOR & SCHWARTZ - INC. - PHILADELPHIA

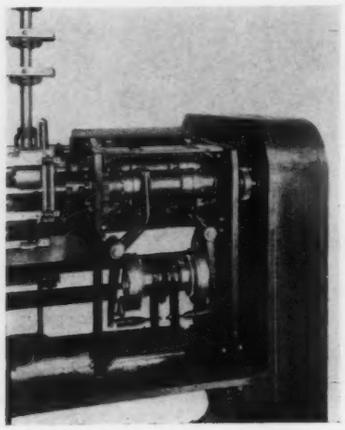
Winding, Twisting, Redraw Machines

Sewing machines and similar processes, and equipment.

Novelty Yarn Twister

A new novelty yarn twister is provided with simple but effective mechanism to produce practically any type of fancy yarn desired. It is equipped with two lines of bottom rolls which can be automatically operated to intermittently stop and at the same time operate at varying speeds. All change gears are readily accessible. The patented reversible tape drive is provided with this machine so that the twist may be readily changed. The cams are accessible and easily adjustable or changed. The machine is provided with a patented yarn controller guide.

H. & B. American Machine Company, Pawtucket, R. I.

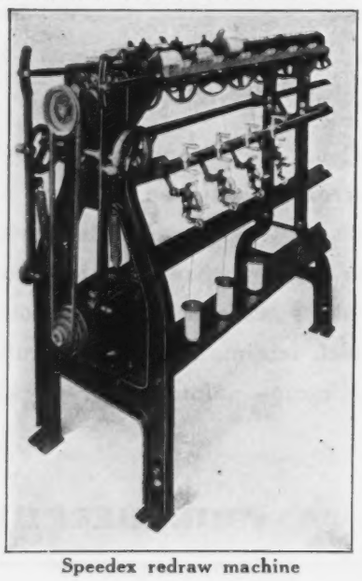


Novelty yarn twister gearing

Speedex Redraw Machine

This spindle-less redraw machine permits higher speed with over-end delivery. It has the Fletcher "unit control" with drive motion, gears, cams, motor, etc., located at one end of the machine; four available speeds; oil retaining bearings throughout; adjustable tension; easy change of the wind on the bobbin by merely changing one gear, etc.

Fletcher Works, Inc., Glenwood Ave. and Second St., Philadelphia, Pa.

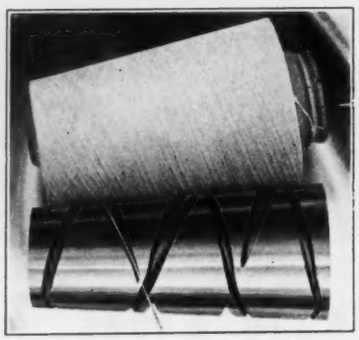


Speedex redraw machine

Rotary Guide Cone Winder

The new Model 103 rotary guide cone winder, for winding the supply for the Foster magazine cone creel for beam and ball warping in cloth and yarn mills, has among other exclusive features a cone-shaped winding roll shown herewith. The loose shell winding roll necessary on other Foster models to prevent yarn chafing cannot be used on the Model 103 type. The conical winding roll of the Model 103, however, serves the same purpose as the loose shell, and the cone package of warp yarn is wound by this roll without danger of chafing trouble, it is explained. It is pointed out that the use of this winder and roll minimizes warp stoppage and lowers warping cost.

Foster Machine Company, Westfield, Mass.

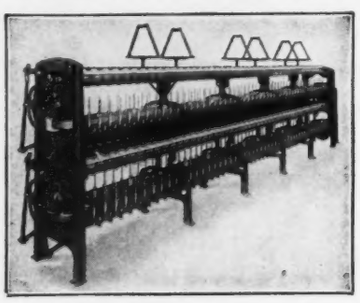


Cone shaped roll for winder

Apex Twisters

In the new Apex twister, the machine is built with the bottom row of spindles extending farther out from the center than the top deck, for affording greater operating convenience and visibility. On the lower deck, the cork roll shaft is arranged to permit easy removal without sliding it through the center frames. "Oilwell" idlers that provide idler pulleys with a year's supply of clean oil are furnished; as is the improved ball bearing back-idler, with "sealed-in" lubrication. Oilless bearings, "Oilwell" spindles, pressed steel cork rolls, adjustable spindle swings, etc., are standard equipment.

Fletcher Works, Inc., Glenwood Avenue and Second Street, Philadelphia, Pa.

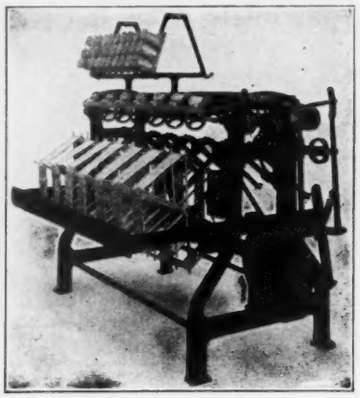


The Apex twister

Simplex Winder

In this new winder, the drive motion, gears, cams and all the mechanism are self-contained in one end of the machine. It is no longer necessary to drive the traverse cams through a long take-up shaft. "Durex" oil retaining bearings are used throughout. The friction rolls are cork covered to prevent slippage and insure maximum take-up bobbin speed. A convenient thumb screw adjustment permits accurate setting of the porcelain guides with respect to the bobbin traverse. The winder is equipped with gears to produce either slow or fast traverse feeds, and is built with belt, individual motor, or a combination of two machines with either motor or belt drive.

Fletcher Works, Inc., Glenwood Ave. and 2nd St., Philadelphia, Pa.



The Simplex winder

Improvement in Winders

Oilless wooden bearings have been applied to single and double deck winders for spindle brackets, swift brackets and pulley shafts, to end any possibility of oil spots on yarn. The rigid traverse motion and machined cams are designed for better and more uniform bobbins, and new cams make possible the winding of cone shaped spools.

Sipp-Eastwood Corporation, Paterson, N. J.

Union Special Developments

The Edgelock line of seaming machines were developed involving principles making for high speed, including the fact that a great majority of seaming operations require very little space to the right of the needle, with speeds achieved up to 6,000 stitches per minute.

A new machine, the Samson, was developed for the tent and awning trade. It provides 40 inches of free space to the right of the needles so that wide widths can pass through without the necessity of folding or bunching. It is mounted on a portable stand which is readily moved from place to place as

There Is Only ONE

ARCY

ARCY is the only enzyme product, which has stood the test of time for successfully liquefying ANY brand of pearl starch to produce superior warp sizing and cloth finishing mixtures. There is only **one** ARCY—it should not be confused with malt diastase, pancreas or other enzymes which may convert starch but carry the conversion into sugars to the utter destruction of the desirable properties of starch for superior warp sizing.

ARCY can be relied upon to work satisfactorily under ALL working conditions and on ALL grades and brands of pearl starch. It can always be relied upon to carry the conversion to just the CORRECT degree for maximum sizing value,—producing a thin, non-congealing size solution with superior penetrating and binding properties,—a solution that is more transparent and which does not cloud the colors or produce frosty splotches.

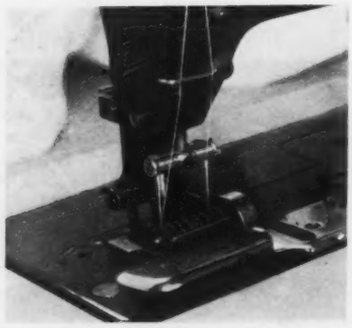
ARCY is used for liquefying thick boiling corn and sago starches, as well as potato and tapioca starches, and costs so little to use.

DRAKE CORPORATION

NORFOLK, VIRGINIA

convenience requires.

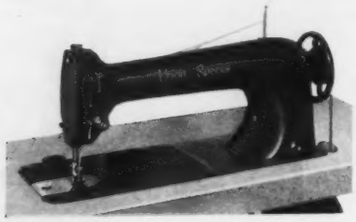
The new Picoetta machine produces the picoetta decorative edging at double the speed of its predecessor and a new underwear facing machine, 51700 E, is provided with an ingenious ar-



Feeding mechanism, style 51700E machine . . . . . .

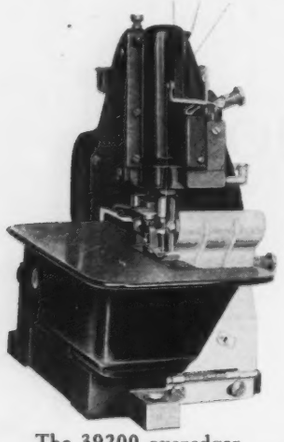
rangement whereby the garment material is gathered in in a fixed amount relative to the speed of the facing. Another new line of machines is the class 53500 ruffling machines, characterized by complete enclosure of all working parts and operating speeds up to 4000 stitches per minute.

Recently the company began production of lockstitch machines embodying the improvements in their chain stitch machines. The new lockstitch ma-



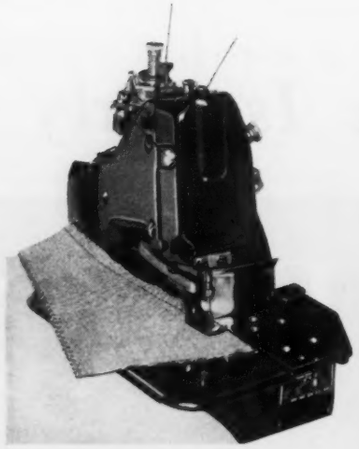
The 61300 lockstitch machine

chines, Classes 61200 and 61300, include rigid one-piece frame casting; utilization of rotary motion to the furtherest extent possible before converting it into reciprocating motion; reduction in number and weight of reciprocating and oscillating parts; gear drives for lower main shaft and hook

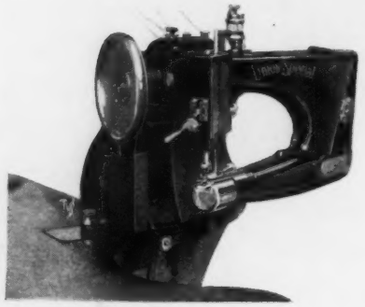


The 39200 overedger

shaft completely sealed and running in oil baths; lubricated, air cooled and



The 43200 machine



The 35700 machine

air cleaned rotary hook; speeds in excess of 4000 stitches per minute at quiet, vibrationless operation.

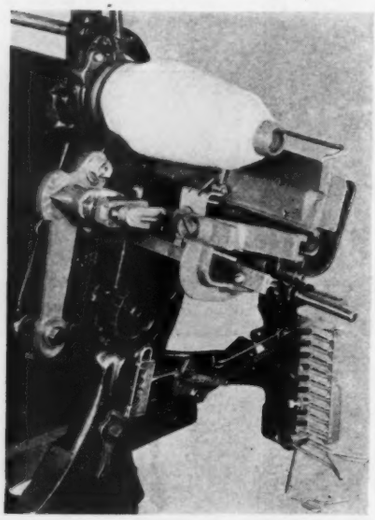
Other additions include the double and triple interlock flat bed machines with recommended speed of 4200 stitches per minute, and the new caterpillar top feed mechanism for use on Class 35800 machines for seaming heavy materials such as Melton and blanket lined jackets. The action of this caterpillar top feed in crossing a seam may be likened to a caterpillar tractor or tank going over an obstacle, and provides additional power for the sewing machine feed.

Union Special Machine Company, 400 North Franklin St., Chicago, Ill.

Universal Winding Developments

The Roto-Koner or No. 44 winding machine, for winding paper cones for knitting, is featured by a rotating traverse which rolls the yarn, instead of rubbing it, making the "whiskers" a part of the yarn, it is pointed out. The traverse roll is in one piece, and with the short drum eliminated, drum-cut yarn is removed. The rotating traverse is a cylindrical roll 3½ inches in diameter, grooved to lay the yarn correctly on the cone. The cone builds faster at the bottom and the taper increases as the package builds up. The machine has no cams or reciprocating parts, with consequent elimination of greasing and clatter. Oil is poured in each section to lubricate the shaft controlling the lifting of the cones. A splash system of oiling gives automatic lubrication to moving parts. The center shaft has oilless bronze bushings.

A taper-end attachment for the No. 50 winder which produces "Pineapple cones" or taper-end tubes, is especially adaptable in the silk industry for full-fashioned knitting. This device is designed to eliminate under-winds and increase the production of first-quality cones by eliminating back winding. The tapered end allows four winds, with a



The "Pineapple cone" taper-end attachment . . . . . .

slower traverse and cam speed (with the same spindle speed). A reduction in press-offs (other than mechanical) is reported by knitters. The tapered end eliminates the need of pads, it is pointed out, and also there is more surface area for better conditioning.

The No. 50 machine also has a new measuring device which may be set for any desired yardage and will stop the machine automatically when the package is filled. This is a direct reading device, displaying the individual figures as on an adding machine.

Bobbin spools for thread

An attachment for winding bobbin spools for thread is designed so that when the thread is put on the sewing machine, the proper end will always be up, it is explained, eliminating kinks in the thread.

A streamlined creel tension is designed to reduce the amount of tension on the yarn while warping. A number of contact points are eliminated, and, with the thread line straight-

When It Comes to Service, SKF's

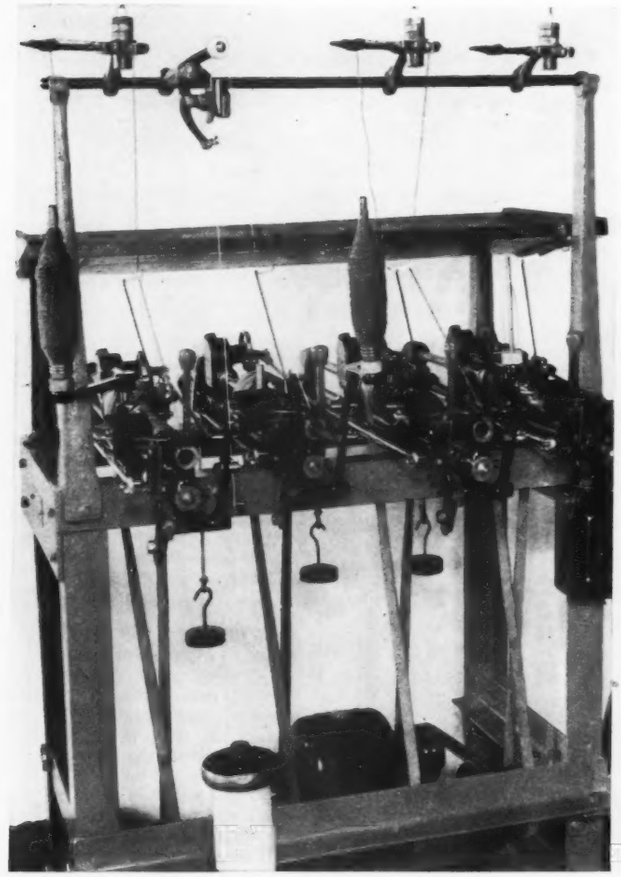
RUN TROUBLE-FREE

In Textile Machinery

● SKF makes practically *all types of anti-friction bearings.* When SKF recommends a particular type of bearing, therefore, you may depend upon it; its recommendations are *unbiased!*

SKF

BALL AND ROLLER BEARINGS 3469

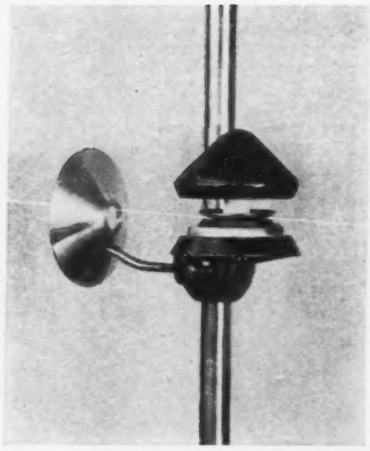


SKF-EQUIPPED BUILT BY F. A. LAZENBY & CO.

Trouble-free service is the purpose of five SKF Self-Aligning Ball Bearings on the $1\frac{3}{16}$" drive shaft of this Lazenby Model "K" Winder. SKF's need no adjustment; carry radial and thrust loads; and keep the shaft in correct alignment.

SKF Bearings help Lazenby winders to produce clean filling for plain or automatic looms at speeds of about 2,000 R. P. M. Men who run SKF-equipped winders and looms endorse the dependability, lengthened machine life and lowered running costs that go with SKF. Their recommendations should lead you to prefer SKF.

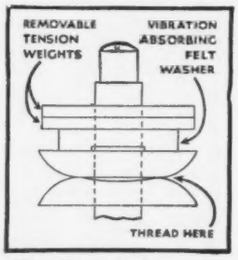
SKF INDUSTRIES, INC., FRONT ST. & ERIE AVE., PHILA., PA.



Creel tension (the anti-lint cap lifted to show tension discs) . .

ened out, bends in the yarn and chafing are eliminated. An anti-balloon disc controls lively yarn; it is so placed that with one swipe of the hand, guided by a cap, the yarn may be quickly threaded between the tension discs.

The Disc-Quil is a progressive disc tension for high-velocity overend de

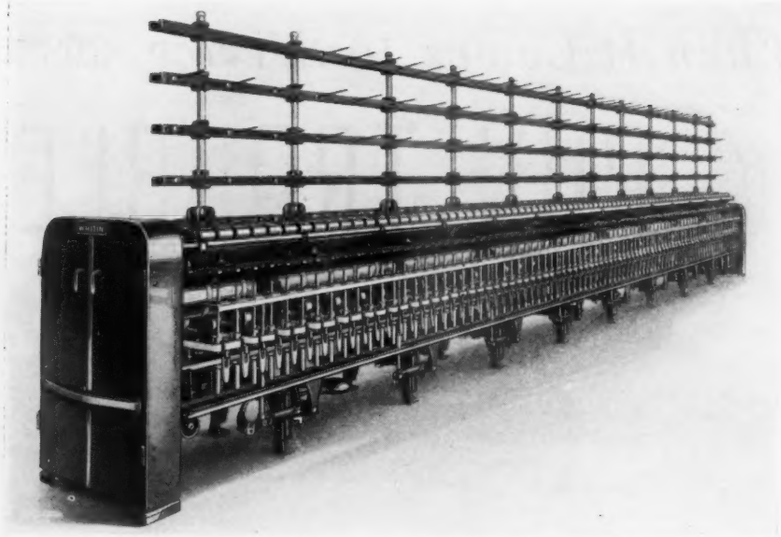


The Disc-Quil tension

livery, for attachment to the No. 90 filling winder or the No. 10 winder. It includes a new special threading bail for high twist yarns. A gradually increasing tension pulls out kinks, without compensator, springs or friction felt.

A new No. 45 machine for building heavy packages of plied yarn is designed particularly for carpet warp, to build packages up to 16 pounds in weight.

Universal Winding Co., Boston, Mass.



Special 36-inch twister for packages up to 5-inch rings

Special Purpose Twisters

New models of special purpose twisters have been designed to handle plied yarns from thread yarns to cabling and cord types. Special high speed spindles with extra large oil capacity and resistance to deflection and bending have been developed. Roll arrangements are provided to suit the mills' requirements and creels are built to handle practically any need. To provide machines for use where space is an object, narrow models have been built. The transmission, including electric motors, is incorporated within the foot-end of the frames.

Whitin Machine Works, Whitinsville, Mass.

Downstroke and Upstroke Twisters for Rayon

An upstroke twister is constructed with two decks for conserving floor space, accommodating 99 mm, 115 mm, and 125 mm spools. Milled cams and differential gearing are enclosed and run in an oil bath. The traverse is arranged to build square, round and taper end bobbins. Gravity type spindles with large oil capacity bolster cases are used. The speed of all four lines of rollers is controlled by one twist gear; all traverse guides on the four lines are controlled from one cam.

The downstroke or ring twister for rayon twisting in singles and plies will handle twists ranging from 2½ to 65 turns per inch. The machines are built for either dry or wet twist, equipped with an oiling roll with variable speed for providing the proper amount of oil to the rayon. A patented reverse taping motion permits changing spindles from left to right twist. All guides are stainless steel or chromium plated. A differential builder is designed especially for large package work. Rings are the regular type, or with grease grooves, or automatically lubricated as preferred.

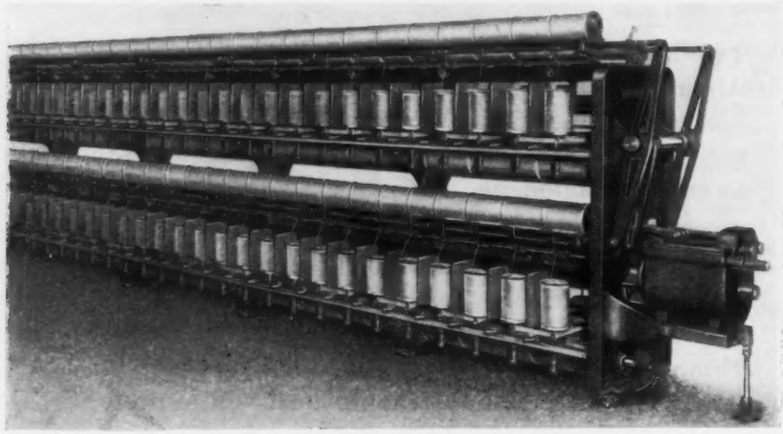
Whitin Machine Works, Whitinsville, Mass.

Booklet on Belting

Under the title of "Schieren-izing", the Charles A. Schieren Company, 31 Ferry St., New York City, have issued a new booklet on the subject of leather belt manufacture, beginning with the selection of hides, including tanning, currying, scouring, pliability, strength, laps, plies and tests to which the belting and leather are put in the course of tanning and manufacture. An interesting feature is a series of illustrations of the company's products with unusually long service lives.

"New Advances in Loom Equipment"

The Emmons Loom Harness Company, Lawrence, Mass., manufacturers of loom equipment since 1867, have published a new, illustrated 12-page brochure entitled "New Advances in Loom Equipment". It describes some of the advances and discoveries made from the time of John Kay and Cartwright down to the present, and the advances which loom manufacturers have made in keeping pace with these discoveries. Written in non-technical style, the booklet is informative, and is amply illustrated with products of the Emmons company.



Double deck upstroke twister for rayon

VELVET GUILD PRODUCT *by* OPENHYM VELVET GUILD PRODUCT *by* OPENH

Rossié Velvet says,

« WITH THE KAUMAGRAPH METHOD, WE OBTAIN RAPID, CLEAN, UNIFORM IDENTIFICATION »

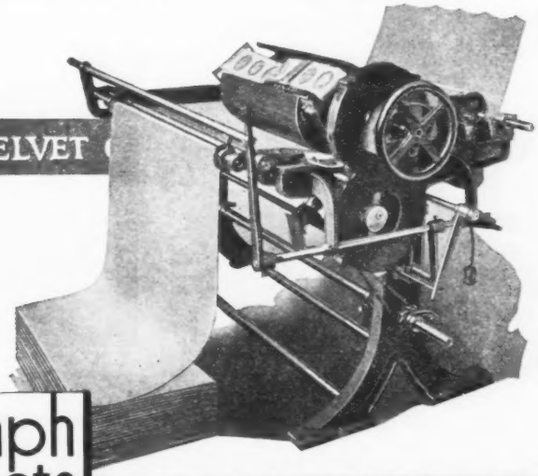
PRODUCT *by* OPENHYM VELVET GUILD PRODUCT *by* OPENHYM VELVE

ROSSIE and Openhym Velvets, the products of Rossie Velvet Company, Mystic, Noank and Willimantic, Conn., marketed by Wm. Openhym & Sons, of New York, are pre-eminently quality fabrics. Substitution is prevented, the quality standard emphasized, by marking every yard with kdt's. A letter from Wm. Openhym & Sons is quoted:

"During the past few years, price rather than quality has been the deciding factor in a great majority of sales. Obviously with this situation so acute, much inferior and, therefore, unidentified merchandise has flooded the market. Neither with the Rossie Velvet Company nor with its selling agents, William Openhym & Sons, does this condition exist. Our policy, dating back close to a century, fully safeguards against any lowering of standard. Every department of manufacture uses only the best raw materials of needed type and kind, resulting in products uniformly good . . . each worthy of the slogan under which we operate—'The Best as a Matter of Habit' . . . each deserving the stamp of approval of The Velvet Guild. These self-imposed quality requirements make the use of and preference for kdt's doubly significant. With the Kaumagraph method, we obtain rapid, clean, uniform identification, with safety and economy."

ROSSIÉ VELVET
Wm OPENHYM & SONS
NEW YORK
SELLING AGENTS

Kaumagraph Dry Transfers can be applied on the back, ends or selvage of the finest piece goods—any cloth, artificial leathers, rubber goods, coated fabrics. They may be applied automatically by the "Transferotor" at surprisingly low cost. A Kaumagraph Identification Specialist is available to assist you in determining the advantages and economies of kdt's for your marking problems.



LVET GUILD PRODUCT *by* OPENHYM VELVET

KAUMAGRAPH, NEW YORK

REPRESENTATIVES IN THE PRINCIPAL TEXTILE CENTERS OF THE WORLD

Copyright 1935 Kaumagraph Company

M VELVET GUILD PR

Kaumagraph protects product package identity

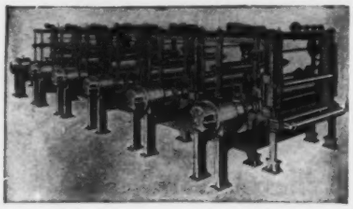
VELVET GUILD PRODUCT *by*

Dyeing, Bleaching and Finishing

Dyeing machines and processes, singers, dryers, extractors, etc., etc. . . . . .

Open Width Washer or Soaper

A full width or open type washing machine for rayon and printed fabrics has a pair of squeeze rolls or nip rolls driven by an individual adjustable speed d. c. motor built as a unit incorporating a speed reducer providing a straight line motor drive with ample



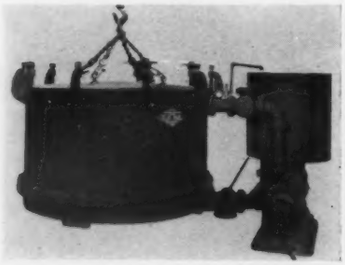
Open width washer or soaper

power at low speeds. This drive can be supplied to plants either equipped with alternating or direct current. Control for the motors is through push-button preset attachment with speed setters conveniently located with the individual motors synchronized through dancer roll rheostats adjustable according to requirements. The machine has a speed range of approximately 12½ to 125 yards per minute. The design of the machine including carrier rolls, nip rolls and compensator rolls, includes special ball bearing features. All side castings and gearing are eliminated to provide access to the wash tanks and protection against accidents.

The Textile Finishing Machinery Company, Providence, R. I.

Raw Stock Dyeing and Bleaching Machine

A new raw stock dyeing and bleaching machine has a capacity of 1,000 to 1200 pounds per batch and is available in both motor-driven and belt-driven. The circulation is downward through



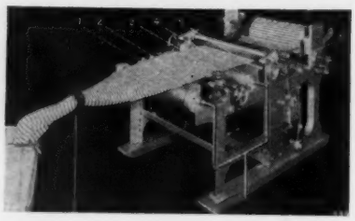
Raw stock dyer and bleacher

the cotton. The machine is constructed of cast iron throughout. Bowl, top plate and bottom plate are of heavy construction. The top plate is fitted with a follower plate that moves downward with the cotton. The bottom plate is cast in segments. Cradles are furnished for removing the batch. All processes are handled with two 3-way valves. The pump is a side suction ball bearing centrifugal pump. The machine is fitted with air line, safety valve pressure gauge, etc.

Vacuum Dyeing Machine Corporation, 1603 Coward St., Chattanooga, Tenn.

Tube-Tex Machines

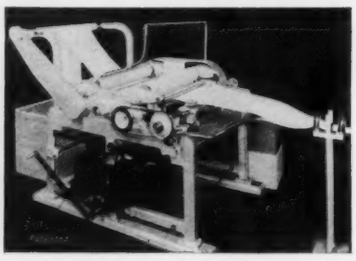
The Tube-Tex high speed steaming and finishing machines are designed expressly for tubular knitted fabrics, handling cotton, rayon, woolens and mixtures up to 45 yards a minute, with no distortions in pattern, design and stripe. The machine is equipped with variable speed drive, and a new type of cooling apparatus for keeping the



Tube-Tex steamer and finisher

calender rolls cold when desired and also for rolling up the fabric in a cold condition. The fabric is steamed as it enters the machine, cooled in a second operation, then passed over a driven propeller spreader which opens it up, then steamed and cooled before passing through the rolls, and is again cooled before being rolled up. The operation of removing the roll of fabric automatically drops a new wind-up bar in place. The manufacturers state the machine produces a uniform "hand" on rayon, woolen and cotton-and-wool mixtures. Pre-shrinkage is accomplished by simultaneous control of length-wise and cross-wise tension.

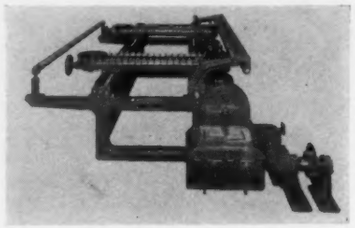
The Tube-Tex single-pass extracting and processing machine is designed to uniformly extract and apply treating



Tube-Tex extractor and processer

solution to tubular knitted fabrics, producing many new finishes. The machine first soaks in rope form the wet fabric which passes over an ingenious driven propeller spreader which opens the fabric to its tubular proportions and propels it in this position through rolling contact. In this predetermined position the fabric is impregnated, extracted and processed and wound on a roll or folded for the dryer.

Other Butterworth developments include a clip expander for use on Sanforizing machines which is placed directly before the finishing unit to assure even selvages; and a rayon pot spinning machine built entirely without cams, which is automatically lubricated and has a fast traverse which makes an open basket-weave cake which is economically washed. The Godet wheels are self-aligning.

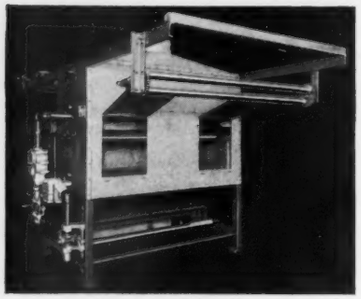


New clip expander

H. W. Butterworth & Sons Company, Philadelphia, Pa.

High Speed Singe

A new 2-flame high speed singeing machine has burners 60 inches wide, for goods 48 inches wide, arranged with stop-offs for 48 inches. It has a speed up to 300 yards a minute, is equipped to singe one side with two burners, or two sides, one burner each,



High speed singe

has the latest type Kemp burners, with a 3-inch control valve. It has a wet-out box and sparking rolls, and delivery reel in back. The hood is galvanized iron covering in the front end; the top of the hood is arranged for a round flue. The machine is equipped with overhead tension frame, swing tension bars, and is driven by belt direct from a motor.

H. W. Butterworth & Sons Company, Philadelphia, Pa.

Rotameter

The use of sulphur dioxide as an antichlor in bleacheries, due to the wide variation in goods run, demands an accurate control of the SO_2 flow, once the antichlor bath has been built up for the run. In connection with Schutte & Koerting, an application of the S. K. Rotameter has been developed which shows at a glance the rate of flow of the sulphur dioxide. The flow can be varied from zero up to any required amount, depending upon the bleach house requirements. This equipment has proved convenient for controlling sulphur dioxide as an antichlor.

The Virginia Smelting Company, 131 State St., Boston, Mass., and West Norfolk, Va.

Prove this!

WHAT HAPPENS
When a V-Belt
BENDS

Fig. 1. *Straight-Sided Belt*

Fig. 2. *Belt with Patented* CONCAVE *Side*

ANY

V-Belt changes SHAPE

as it Bends around its pulley

When a V-belt bends, its top is under *tension* whereas its bottom is under *compression.* Naturally, the top grows *narrower,* the bottom *wider.* Figure 1 (on the left) shows this shape-change in a straight-sided belt. Note the outbulge of the sides. Now, in figure 2, note how the concave side *corrects* this distortion — producing a shape that *precisely fits* the sheave groove.

Two savings result: (1) No side-bulge means uniform wear, *longer life!* (2) Full side-wall grip on the pulley means *more* grip—heavier loads without slippage—power used, not *wasted.*

The Gates Vulco Rope Drive is the *only* V-belt built with the patented concave side.

Engineering Offices and Stocks in All Large Industrial Centers

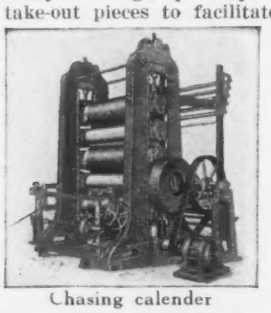
THE GATES RUBBER CO., *Factory Branches*

Terminal Bldg. HOBOKEN, N. J.
1324 So. Western Ave. CHICAGO
747 Warehouse St. LOS ANGELES
2213 Griffin St. DALLAS
999 So. Broadway DENVER

GATES VULCO ROPE DRIVES

5-Roll Chasing Calender

A new ball and roller bearing calender unit consists of a 5-roll chasing calender particularly for high grade finishes on broadcloth and other shirting fabrics. The side frames are built for heavy duty and high speed operation, with take-out pieces to facilitate the



Chasing calender

installation and removal of rolls. Self-aligning spherical roller bearings are used on the top and bottom rolls, and heavy ball bearings on the intermediate rolls, except the driving roll which has one ball and one roller bearing; all chasing rolls are fitted with ball bearings. The driving equipment consists of a multi V-belt unit and silent herringbone gearing. Pressure is supplied by a hydraulic pump and accumulator unit. Another feature is the design of the let-off arrangement mounted on a movable or a sliding carriage to facilitate the guidance or alignment of the fabric upon its entering the calender.

The Textile Finishing Machinery Company, Providence, R. I.

Dyeing Machines

An improvement on the Morton vertical beam and package dyeing machine is that the lid is counterbalanced, and the bottom has a self-centering device that automatically centers the beam or package carrier as it is lowered into the machine.

On the raw stock dyeing machine, there is double circulation, and patented follow plate which follows the batch of cotton down as it is being dyed off, preventing channelling or felting of the cotton as it is being dyed.

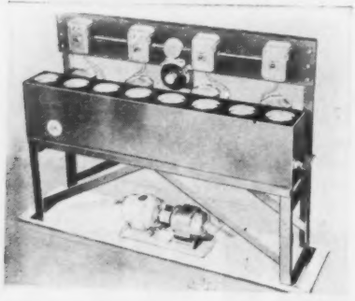
A combination raw stock and package machine was recently developed.

Morton Machine Works, Columbus, Ga.

Single Package Extractor

A battery of single package extractors has been developed for drying yarns dyed on spools or packages, consisting of extractors for a single spool, mounted on a vertical axis driven by a motor through a V-belt. Two containers are driven by each motor, so that the batteries are built up in twos and multiples of two. A vertical spindle is mounted in ball bearings which in turn are mounted in a flexible seat. A spindle extension projects upward through the center of the basket container to centralize the spool. A normal method of dynamic braking is used to accelerate the cycle of operation and reduce maintenance and repair costs.

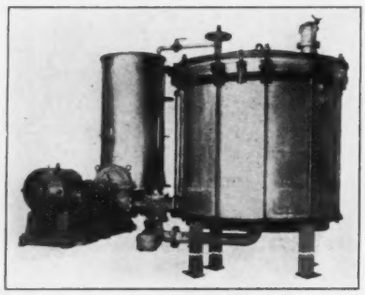
American Tool and Machine Company, 1415 Hyde Park Ave., Boston, Mass.



Battery of single package extractors

Franklin Process Developments

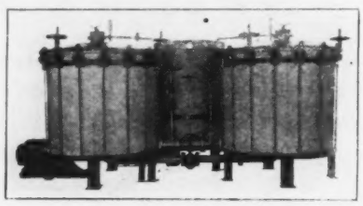
The new fabricated stainless metal Franklin process package dyeing machine has a simplified piping arrangement; the metal may be aluminum, stainless steel or Monel metal. The



Package dyeing machine

fabricated construction replaces cast construction. The new model has a shallower pit with less floor space required; the simplified piping facilitates setting up, and makes possible a freer circulation.

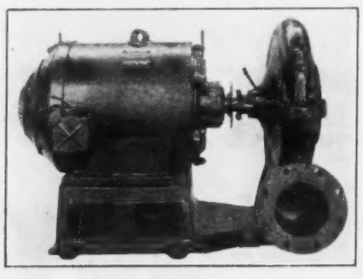
The raw stock dyeing machine now built of fabricated stainless metal, is built with removable bottom, and the dye liquor is forced through the stock



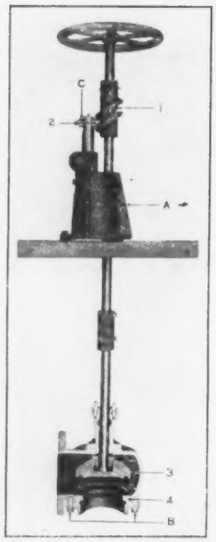
Raw stock dyeing machine

from the top down, one way only so as to disturb the stock as little as possible. (The removable false bottom feature is optional with recent models of package dyeing machines.)

In a new direct connected motor-driven pump for Franklin process package dyeing, raw stock dyeing and



Direct connected motor driven pump



Quick opening drain valve

silk soaking machines, the motor shaft and the pump shaft are identical, the shaft being as short as possible resulting in floor space saving. The motor, of standard construction, may be readily replaced.

A new quick opening drain valve for the package dyeing, raw stock dyeing and silk soaking machines, made of cast-iron, stainless steel, aluminum, Monel metal or other specified metal, has a quick acting cam, permitting the valve to be completely opened or closed with a three-quarter turn of the handwheel; an adjustable cam roll; floating disc; and removable seat.

Franklin Process Company, Providence, R. I.

Dye Jigg

A new individual motor-driven dye jigg is equipped with individual motor drive, worm and gear reduction units with disc-plate clutches, Monel metal lined tanks and beam rolls mounted in ball bearings. Other special equipment includes swiveling type single bar contact spreaders to assist in removing wrinkles from the fabric as it passes through the steam rolls.

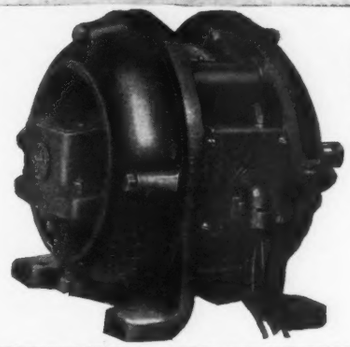
The Textile Finishing Machinery Co., Providence, R. I.

Ball Bearing Silk Tenter

In a new patented ball-bearing silk tenter, the driving mechanism is designed to be practically a separate, self-contained unit to which the rails are merely attached. All driving parts of the new tenter turn in ball bearings. Cut spiral bevel gears are used and operate in an oil bath. A balanced mechanism for adjustment of the chain rails is designed to give freedom from binding of the drive shaft during the adjustment of the rails toward and from each other to vary the size of the machine for different widths of cloth. A lubricant retaining flange is provided about the end of the tenter rail. Whipping of the chain around the ends is eliminated. Improvements have been made in the type of swivel let-off arrangement, special gas burners, drying cylinder and wind-up unit.

The Textile Finishing Machinery Company, Providence, R. I.

REDUCE WEAVING COSTS



G-E loom motor with waste-packed bearings. Large-capacity oil reservoirs reduce the frequency of fillings and cut the cost of maintenance

WITH THE G-E LOOM MOTOR

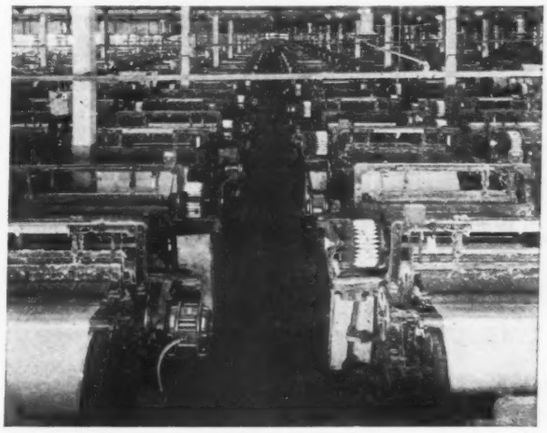
G-E starting switch for loom motor, mounted on pedestal; cover closed

BY installing General Electric loom motors in your weave shed, you can obtain for your mill important operating economies that will cut your weaving costs and help you build profits.

The General Electric loom motor is built with the sturdy construction necessary for successful performance with modern high-speed looms. Because of its superior design and the high quality of its materials and workmanship, it offers mill operators the following major advantages:

1. **Exceptionally low power consumption,** which reduces operating costs.
2. **Sustained high speed,** which maintains maximum production under varying load conditions.
3. **Ample reserve capacity** for breaking in new looms.
4. **Positive lubrication with infrequent oiling** because these motors are equipped with trouble-free, waste-packed bearings and large-capacity oil reservoirs. Wool-yarn packing can be easily inspected or renewed without disturbing motor bearings or mounting.
5. **Exceptionally long life,** with low maintenance.

Get these cost-reducing, profit-building advantages for your mill. Investigate, also, G-E control, switchgear, power-generating apparatus, wire and cable, and other products which General Electric makes for the textile industry. An experienced sales engineer in the G-E office nearest you will be glad to help you solve your electrical problems efficiently and economically. Why not get in touch with him? General Electric, Schenectady, N. Y.



G-E loom motors driving looms in weave shed of a large southern textile mill

020-141

GENERAL ELECTRIC

Rivetless Plate Tenter Clip

A new tenter clip has a riveted plate of hardened stainless steel construction and is designed and so installed as to reduce the possibility of oil or grease leaking through or striking upward onto the fabric. The controller

New tenter clip

having long bearing surface, and the lightest possible contact with the fabric may be of the patented quick drop or roller type. The gate is balanced and fitted with steel fixed or swivel insert for active gripping contact on the selvages of the material. The body of the clip is of malleable iron, cadmium plated to resist rusting and fitted with a special hardened steel bushing and connecting rivet.

The Textile Finishing Machinery Company, Providence, R. I.

New Dryers

In a new piece goods dryer, the material is carried in a series of passes upward and downward through the drying enclosure, resulting in floor space saving. The air serves the double purpose of drying the material and "laying" it gently against the conveyor rods. A diffuser is used to produce even distribution of air. The manufacturers point out there is no tension, no stretching or pulling, no loops to form, with full shrinkage allowed. This is called the Multi-Pass Airlay dryer.

A new automatic yarn dryer is equipped with a traveling skein protector consisting of a flexible material hung skirt-fashion from the chain conveyor so that it travels with the poles to prevent damage to yarn; permitting full loading of every pole. Trese traveling walls also force the drying air currents in a definite path uniformly through all skeins. The dryer includes super-insulated housing, air stream interior design, larger fans and new heaters; and is available with or without cooling and conditioning sections.

In a new stock dryer for drying fibrous or loose materials on a continuous wire screen conveyor, the feed is a part of the dryer. Each fan is mounted directly on a motor shaft, eliminating belts and allowing separate control. Traveling side guards allow loading to the edges. By a system of air balance, the air is cool at the delivery end where the material is dry and heated at the feed end where the material is wet.

Proctor & Schwartz, Inc., Philadelphia, Pa.

Sulphur Colors

Among the sulphur colors for cotton recently announced are the following: Amalthion Brilliant Cerise AD, Amalthion Bordeaux 3B, Amalthion Bordeaux 5 CFN, Amalthion Bordeaux 4 R, Amalthion Bordeaux 9 R, Amalthion Brilliant Green 3G Conc., Amalthion Green Y S C 200%, Amalthion Green M Conc., Amalthion Fast Green B C F, Amalthion Electric Blue, Amalthion Brilliant Sky Blue B, and Amalthion Brilliant Sky Blue B 200%.

Camacyl Brilliant Red PY, and Camacyl Brilliant Red BF were developed for acetate silks, and Formadine Black D G Extra (straight color) is a direct black for standing formaldehyde aftertreatment, a special individual dyestuff used for dyeing cotton, rayon, shoddy, and mixed goods.

John Campbell & Company, 75 Hudson Street, New York City.

Color Comparator

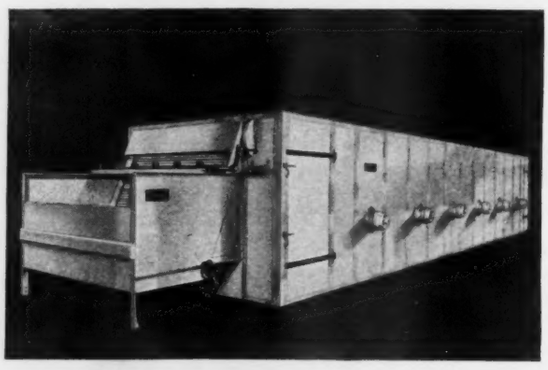
In a new color comparator, a simplification of the color analyzer principle is used employing three primary color filters, red, green and blue. Each filter covers a wide band of the visible spectrum and the filters overlap so that

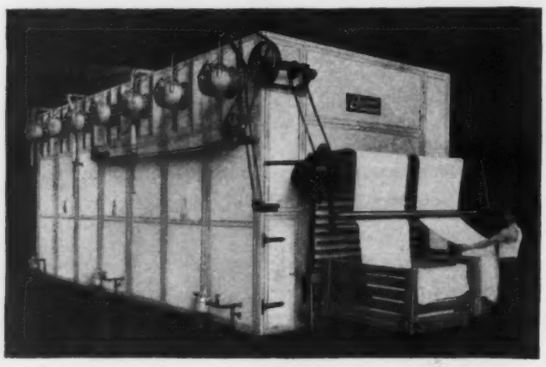
Color comparator

the entire spectrum is covered. Provision has been made to eliminate three factors productive of large errors in simplified analyzing instruments; variations in weave, infra-red radiation from the light source, and variation in readings due to varying line voltage. By using a carefully designed optical system, an infra-red filter, and a voltage regulator, these errors have been reduced to a negligible point.

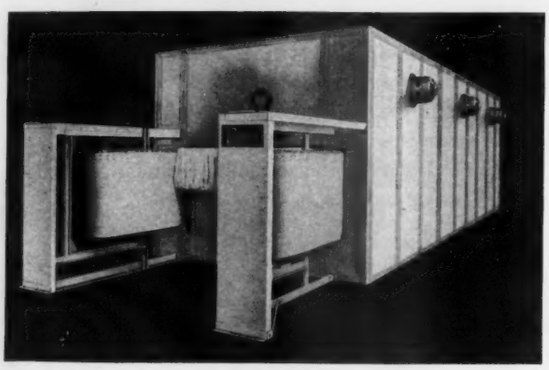
General Radio Company, 30 State Street, Cambridge, Mass.

New raw stock dryer . . .

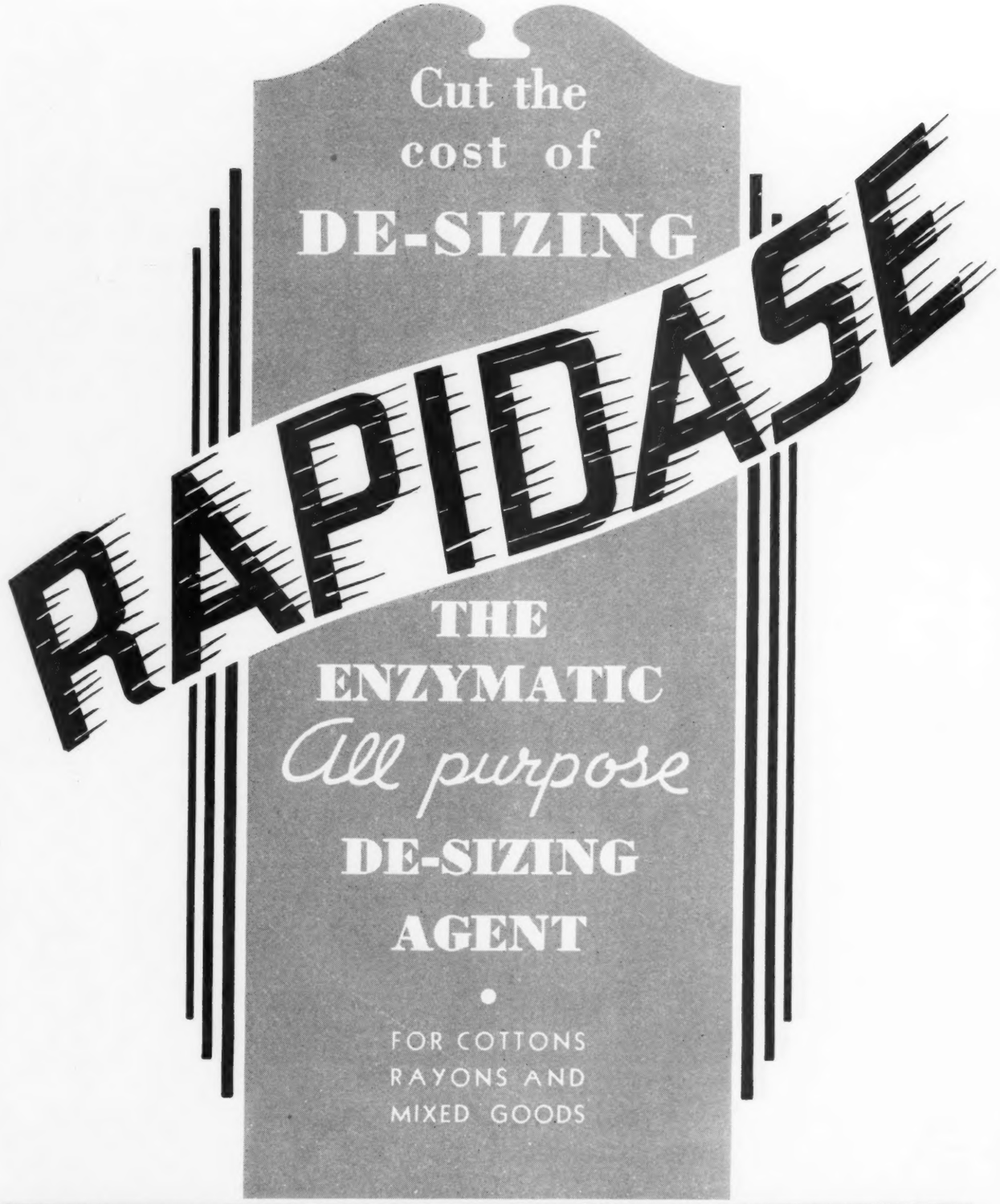




The Multi-Pass Airlay dryer



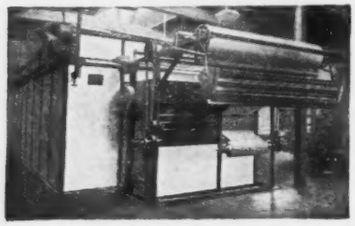
New automatic yarn dryer



WALLERSTEIN CO.
INCORPORATED
171 MADISON AVE. NEW YORK CITY

Loop Dryer Improvements

Among the recent improvements to the "Hurricane" automatic loop dryer are the development of a new type of fan, a more uniform system of air circulation between the cloth, rotating



Improved loop dryer

poles, heavier insulation—with an increase in the capacity of from 30 to 50 per cent, improvement in the quality of product and reduction of the cost of operation. This machine air dries piece goods of all kinds in moderate temperatures without tension.

The Philadelphia Drying Machinery Co., 3351 Stokley St., Philadelphia, Pa.

Vacuum Extractor

A new vacuum extractor for any combination of speed, pump capacity and type of cloth, has a variable slot over which the cloth passes that can be instantly adjusted to all conditions of cloth, type of cloth and speed of travel. It is simple, and continuous in operation, and can be readily installed on existing extractor frames. It is not necessary to shut down the extractor for a change in cloth or to clean a filter. The water leaving the extractor tube passes through a flock trap which collects the flock completely so that clear water flows through the pump. The extractor is equipped with a simple and efficient seal, attached to each end of the extractor tube, and designed for varying widths of fabric.

The Lamson Company, Inc., Syracuse, N. Y.

Chemical and Sizing Materials

New Processing Agents

A line of synthetic detergents and agents for treating fabrics to improve their appearance and "handle" is timely since the buying public has become increasingly conscious of the appearance and odor and what is termed the feel, or tactual response, of fabrics. The appearance and utility of fabrics have been enhanced by the use of delusterants and water-proofing agents.

The Gardinol products are outstanding in the developments in detergents, permitting the scouring of sensitive fibers and dyed fabrics without the application of harsh alkalis and without danger of causing resist spots and rancidity troubles due to the deposition of insoluble hard water soaps.

Another class of synthetic agents, chemically related to the Gardinols, are the Brilliant Avirols, all manufactured by sulfation of various higher alcohols. Both the free alcohols and the sulfate esters possess finishing properties, but their characteristic finishing effects are quite different. Brilliant Avirol L-144 is offered to produce soft, beautifully draping finishing without excessive weighting, and also acts as a levelling agent in addition to softening. It is readily soluble in cold water and highly resistant to hard water and may, if desired, be applied in the last cold rinse after dyeing. Brilliant Avirol L-142, which is largely the stearyl sulfate ester, is applicable to heavy French crepes and crepe taffetas; these fabrics may be softened in the dye beck or jig during dyeing or in the last rinse. Brilliant Avirol L-168 paste is for fabrics requiring weighting and a crisp, smooth finish combined with fine draping qualities, such as taffetas and twills for lining fabrics. This product is a partially sulfated stearyl alcohol which combines the softening properties of stearyl sulfate with the wax-like properties of free stearyl alcohol.

The Brilliant Avirols are inert to atmospheric conditions and do not form rancid products; they are neutral in reaction and show no effect on the shade of dyestuffs.

Aridex WP is a new one-bath waterproofing agent, for producing water-repellent finishes on textiles of all kinds; also for spotproofing of rayon and silk crepes, hosiery, pile fabrics, hat felt, etc. It is a white waxy emulsion which may be diluted with hot or cold water. It is stable to acids (except sulfuric), hard water, and most salts; it is not compatible with alkalies, and sulfates, however, soaps, sulfonated oils and the alcohols sulfates will cause precipitation and therefore cannot be used in the same bath with Aridex WP. This precipitating effect of soap and similar detergents on Aridex WP is the factor which enables the water-proofing effect to be markedly permanent to laundering. The finish will not, however, withstand power laundering at 200 degrees F.

A companion product to Aridex WP, for delustering all types of rayon fabrics, is Neotone T, a pigment product employing the same dispersing and fixing agent as that used in Aridex WP. Dull finishes obtained by the use of Neotone T are characterized by the same resistance to hard water, washing, dry cleaning, etc., as those secured from Aridex WP. Where spot proofing and delustering effects are desired on hosiery or fine fabrics, both operations may be conducted in a single bath with excellent results by combining Aridex WP and Neotone T.

E. I. Du Pont de Nemours & Co., Wilmington, Del.

Chemical Products

Acetole Size, a powdered sizing compound for rayon and acetate warps; Appretole D, a highly sulphonated oil for softening fabrics; Eumercin, a wetting-out agent for mercerizing; Impregnole, for waterproofing in one bath; Sulfanale, a sulphonated fatty alcohol compound for scouring and soaping processes; Warco, a series of throwing and soaking oils with various applications; and Warcosol, a napthalene sulphonic acid compound penetrating agent—are among the products recently developed.

Warwick Chemical Company, West Warwick, R. I.

Silk Wetting-Out Penetrant

A new wetting-out penetrant for silk is developed for continuous use in three stages of silk treatment, especially as related to full-fashioned hosiery. First, as a wetting-out penetrant and anti-mildew agent in the soaking bath in the original treatment of the silk for throwing; second as a wetting agent in the water troughs on the coners and knitting machines; and, third, with modifications, as a preliminary scour before degumming and dyeing of the hose.

Textile Chemical Products Company, Greensboro, N. C.

Crepe Throwing Compound

A new type of throwing compound is produced to be used in the treatment of rayon for crepe throwing in conjunction with a gelatin throwing size. It is stated that this shows a marked increase in creping action on rayon to produce a deeper pebble with a fuller and heavier hand.

Textile Chemical Products Co., Greensboro, N. C.

Size Bricks

Size bricks for acetate and rayon have been developed which, it is stated, contain all the necessary ingredients for a complete job of warp sizing. The proper amount of water is added, and the brick dissolved at a temperature of approximately 155 degrees F., in about 8 minutes. The bricks are of uniform 2-pound size, and on an average are added to water in the ratio of one-pound of size to one-gallon of water for acetate and one pound of size to five gallons of water for rayon.

Textile Chemical Products Co., Greensboro, N. C.

New Chemical Products

A new size "Talgum" has been developed, composed of emulsified tallow and locust bean gum, especially designed for use where the goods are sized for weaving only and are to be de-sized and bleached or dyed. Another new size is "Sizing Compound P" for use where goods are to be dyed without de-sizing and where no change in added weight from grey goods to finished goods is desired.

Three new conditioners for setting the twist in filling, include one which is made up to provide complete dispersion of water and thorough penetration; without effect on the varnish or metal rings on the bobbins or staining the cotton. Another has these same qualities plus a mildew preventive, and another includes a hygroscopic agent to make it hold moisture for a permanent regain without mildew.

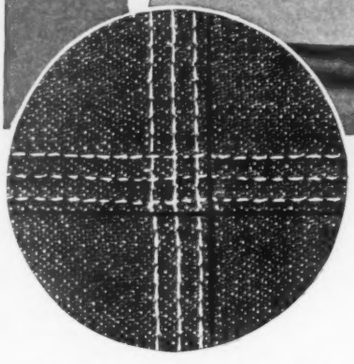
Stodghill & Company, Inc., Atlanta, Ga.

Kali Developments

A new one-bath waterproof, known as Hydroxy K-7, has been developed for waterproofing all types of fabric, silk, rayon, acetate and wool. Hydroxy acetate size for sizing acetate yarn, has been improved through laboratory research work. Hydroxcene has been brought up-to-date and improved to provide the correct pebble on rayon crepe, for use in the treatment of the filling before twisting.

Kali Manufacturing Company, 1410 North Front St., Philadelphia, Pa.

SWEET-ORR OVERALLS ARE FELLED ON FELDLOCK "DUALFEED" MACHINES



Sample of cross over lap felled seam made on a Willcox & Gibbs Type No. 760 Feldlock "Dualfeed" machine using 3 needles and 6 threads.

WILLCOX & GIBBS FELDLOCK "DUALFEED" MACHINES GIVE THAT CUSTOM LOOK TO WORK GARMENTS

Well finished, lap seam felled work garments are made on the Feldlock "Dualfeed" machines faster, more economically and more efficiently. Form fitting "Dualfeed" overalls, work shirts, etc., sell better because they look better and they wear longer. The Feldlock "Dualfeed" machine is made in Type No. 750 using 2 needles and Type No. 760 using 3 needles. May we demonstrate these machines on your garments? A comparison of the finished work will prove to you the superiority of Feldlock "Dualfeed" machines.

WILLCOX & GIBBS SEWING MACHINE COMPANY

HOME OFFICE

656-658 BROADWAY - - - NEW YORK, N. Y.

NEW WILLCOX & GIBBS MACHINES AND GENUINE PARTS MAY BE PURCHASED ONLY FROM COMPANY'S OFFICES

Silk Soaking Oil

Silklubric No. 40 is a new type of silk soaking oil which, it is pointed out, does not require an intricate formula, being only one mild alkali and sometimes a small quantity of glycerine.

E. F. Houghton & Company, 240 West Somerset St., Philadelphia, Pa.

Fatty Acid Derivatives

A new series of fatty acid derivatives products has been developed under the name Arctic Syntex, with all the desirable characteristics of soaps, and none of the undesirable ones, it is explained. They are finding wide use in the textile processing industry with resultant cost reductions in processing as well as re-processing. Other products for the textile field have been improve through refinements, and the staff of technicians has been increased to provide better service in offering processing suggestions and soap application information.

Colgate-Palmolive-Peet Company, 105 Hudson St., Jersey City, N. J.

New Soap Equipment

New equipment to insure the mill user a dry, thin, chip or flake for producing a uniform product with guaranteed soap content and ready solubility in water, has been installed to replace antiquated machinery. The research and control laboratories continue to function.

Armour Soap Works, 1355 West 31st St., Chicago, Ill.

Kloranol Series

Kloranol, a product developed by the Canadian Aniline and Extract Co., Ltd., of Hamilton, Ontario, is made by sulfating the higher fatty alcohols which are derived chemically from familiar fats and oils. For example, the fatty acids from cocoanut oil are reduced to a technical grade of lauryl alcohol which, upon sulfation and neutralization, gives technical sodium lauryl sulfate. The properties of the fatty alcohol sulfates change with the molecular weight of the fat, just as do the properties of common soaps. This product is being used for pasting vat colors to give a higher color yield and make for more dispersion. Other uses are penetration, level dyeing and scouring. It will stand up under alkalis or acids, it is pointed out.

American Aniline & Extract Company, Inc., Venango and F. Sts., Philadelphia, Pa.

Oil Developments

The Nopco sanforizing oil was developed to meet a demand for a finishing oil that wets out quickly, is non-discoloring and free from odor development, in addition to the qualities demanded of the usual finishing compounds. Tex-Dul No. 6 and Tex-Dul No. 8 were developed for external delustering of all types of dyed silk and rayon piece goods. The pigmentary ingredients were selected from a long list of raw materials. For sizing rayon warp for upholstered fabrics, light damasks, etc., and for use in conjunction with rayon soaking oils, Nopco Size No. 1 was brought out, a concentrated, finely granulated throwster's size. For oiling direct running hosiery yarns, Nopco Direct No. 1 may be used for still tub soaking or for machine soaking. A number of special soaking formulae use this oil. The Nopco tested combination finish was developed for a variety of finishes—delustered, splash-proof, water repellent, etc. It is designed not to interfere with the shade, width or length of the fabric; and it prevents sticking in boarding, it is pointed out, and covers sleaziness. The delustering, splash-proof and water-repelling properties may be obtained in one operation.

National Oil Products Company, Harrison, N. J.

Industrial Alkali

A new industrial alkali known as Metso 99 is designed to fill the gap between dangerous caustic and milder alkalies such as soda ash and trisodium phosphate. Chemically, it is sodium sesquisilicate, an alkaline salt having a pH of 11.6 at a concentration of 0.1 per cent as compared with a pH of 11.35 for sodium metasilicate and 11.9 for caustic soda. The new detergent is completely soluble in water and maintains its original pH until practically all of the alkali is neutralized. It is a free rinser, and finds use in textiles where a controlled alkali of somewhat higher pH and greater sodium oxide content than metasilicate is desired.

Philadelphia Quartz Company, 121 South Third St., Philadelphia, Pa.

New Chemical Product

A new product called Quakatex has been introduced for dyers and bleachers. This is a sulphated fatty alcohol product designed to combine both wetting out or absorbency features with detergent properties, and to save time in dyeing, especially where machines are crowded for production.

Quaker City Chemical Co., Philadelphia, Pa., and Knoxville, Tenn.

Sulfonated Derivatives

A new series of sulfonated derivatives of synthetic compounds related to the soaps without alkaline reaction, are called Nacconol KP and KPR. They are considered as the ultimate reaction products of a strong acid with a strong alkali, displaying neutrality and not hydrolizing, but dissociating like sodium sulphate. They display perfect stability toward acids and alkalis, it is stated, and retain detergent, wetting-out and foaming properties in the presence of hard water or acids, it is explained, together with rinsibility and resistance to oxidation.

National Aniline & Chemical Co., 40 Rector St., New York City.

Processing and Finishing Compounds

New developments in a line of processing and finishing compounds include: Redoxyvat, an anti-oxidant for vat dyeing, to keep dyestuffs in the leuco state, of which 10 to 25 per cent on the weight of the dyestuff is required. A new series of finishing oils to prevent yellowing, rancidity and odors on goods in storage. Siltex Gum Extra Brilliant, for printing, to give penetration on face and back of cloth. A series of high SO_3 oils with a high SO_3 content to provide greater resistance to heat, acids, alkalis, hard water and salts, and give greater stability, penetration and easier solubility. Cel-Ray Scourer, for acetate-rayon fabrics, to remove sizing and oils from previous operation and prepare goods for dyeing and finishing, with reduced boil-off time. Dullatone, an improved formula for delustering rayon piece goods; in two types, for light and dark shades. Waterproofing compounds for piece goods, and spot-proofing compounds for hosiery.

Onyx Oil & Chemical Co., Jersey City, N. J.

Wool Oil

A new wool oil is designed for lubricating wool fibers, is light in color and is said to have high emulsifying properties. It is also easily removed in the regular scouring bath, it is stated. It is known as Laurel Wool Oil WR.

Laurel Soap Mfg. Co., 2606 East Tioga Street, Philadelphia, Pa.

Fatty Alcohols

New fatty alcohols, knowns as Laurel Supersulphonates, have been announced, and come in powder and gel forms and are said to be lime-resistant and to have high stability to acids and alkalies.

Laurel Soap Manufacturing Co., Inc., 2606 East Tioga Street, Philadelphia, Pa.

P. & G. Developments

A direct running silk was made possible by the application of a soaking formula properly balanced and adjusted with Olate, raw and sulfonated oils. A rayon soaking formula for throwsters and manufacturers was worked out using Ivory chips or Olate flakes in conjunction with oil and gelatin which assures of a greater, high even pebble. An Olate raw wool scouring method was evolved for all classes of wool to result in soft, lofty, clean and bright wool having a regulated low grease content, in an unimpaired condition. The Gardinol products were successfully applied to the wet finishing operations of silk, wool, rayon and cotton in all forms.

The Procter & Gamble Distributing Co., Cincinnati, Ohio.

Oils for Sanforizing

The introduction of sulfonated mineral oils known as Twitchell oils to the cotton sanforizing trade has been made, primarily as wetting out and finishing agents in this process. They are odorless and non-oxidizing, thereby preventing rancidity or yellowing, and possess especial wetting out properties, it is stated.

Emery Industries, Inc., Twitchell Process Division, Cincinnati, Ohio.

Printing Powders

A new line of Carbanthrene printing powders have been developed which, it is pointed out, are instantly dispersable and may be stirred directly into the "printing gum" without "pasting up" with water or other solvents, producing a homogeneous and non-specking paste because of a finely divided state and the action which follows while the powders disperse in the printing gum. The powders remain unchanged indefinitely without drying out, settling, caking on container sides or freezing during winter months, it is pointed out. Accurate weighings provide a closer check on actual color shop consumption and adherence to established standards on "repeats".

National Aniline & Chemical Co., 40 Rector St., New York City.

A FINE FINISH *Sells the Goods!*

Spend a half-hour on the sales floor of any retail piece goods or garment department . . . and you'll agree that a FINE FINISH sells the goods.

A fine finish endows fabrics with beauty—quality—value . . . the three keys that open the feminine purse.

Give your fabrics the beauty of color and prints—the soft, supple, rich feel and appearance that women so admire . . . and watch your sales increase!

ONYX . . . for a fine finish!

The logical source of supply for a "finish that sells" is ONYX . . . *specialists on finishing materials.*

Every effort of ONYX chemists and laboratories is directed toward the production of a finer finish. Every ONYX processing and finishing compound—***for any operation***—is developed to play a helpful part in producing a fine finish.

Inquiries are invited from any mill interested in obtaining a finer finish. A trained representative will call to demonstrate, if you wish. Samples of any product, for any operation, will be sent upon request. Let us hear from you.

ONYX OIL & CHEMICAL CO.
Specialists on Finishing Materials.
Jersey City, N. J.

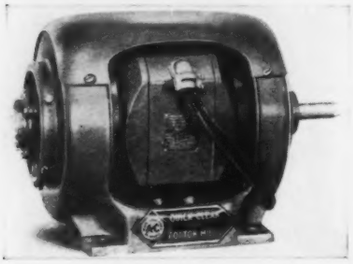
Southern Repr. E. W. Klumph, Charlotte, N. C.
Midw. Repr. Maher Color & Chemical Co., Inc., Chicago.
In Canada: Onyx Oil & Chemical Co., Ltd., Montreal.

Onyx
LABORATORY-CONTROLLED
PROCESSING & FINISHING COMPOUNDS

Power Generation, Transmission, Motors, Belts, Drives, Steam and Electrical Equipmen

New Mill Motor

A new mill motor, designed expressly for cotton mill service, and known as Quick-Clean, is designed to provide protection from accumulation of cotton lint within the motor without sacrifice of sturdy structure and good performance. "Seal Clad" shields completely enclose the stator winding at both ends, providing hard, smooth Bakelite surfaces to which lint does not adhere. The motors have removable covers, cartridge mounted ball bearings, long leads for flexible conduit, and straight or tapered shaft extension, and are available in 5, 7½, 10 and 15 h.p. ratings.

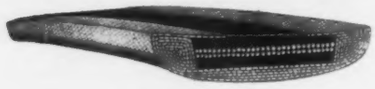


Mill motor

Allis-Chalmers Mfg. Company, Milwaukee, Wis.

Cone Belt

Heavy fabric beads at each edge, and a convex face are features of a new cone belt. Twelve plies of heavy cotton fabric are wound tightly in the bead to prevent fork wear. The same fabric beads are used in an evener belt, in which the two beads are firmly anchored across both top and bottom sides. A card band is built of a center core of rubber-filled cords, and enclosed in a cover of bias-cut rubber-impregnated cotton fabric.



New cone belt

The Gates Rubber Co., Denver, Col.

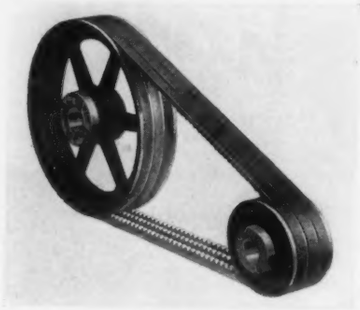
Electrical Driveshaft for Range Drives

For new or modernized ranges, increasing speed of power, adding cans or otherwise increasing production of the unit, a new and simple synchro-tie drive or "electrical drive shaft" is developed. The new drive supplies the same speed to all sections just as a line shaft does, but motors and a few wires replace mechanical shafting, bearing, coupling, bevel gears and the like. The drive uses simple wound rotor motors in a synchronous connection making the machinery more accessible for operation and maintenance. Any type of mechanical variable speed transmissions may be combined with the drive to provide adjustable "draw" where required in particular sections.

Westinghouse Electric and Manufacturing Co., East Pittsburgh, Pa.

Cast-Machined Pulleys

A new line of cast-machined (semi-steel) pulleys is available for use with the Dayton cog-belt drive for ratings up to 15-hp., which, by providing maximum strength with excess metal eliminated, are furnished of approximately the same weight as the pressed steel pulleys. The special semi-steel material provides a smooth, close-grained groove-surface, machined to accurate limits of precision work.



Cast-machined pulley

The Dayton Rubber Manufacturing Co., Dayton, Ohio.

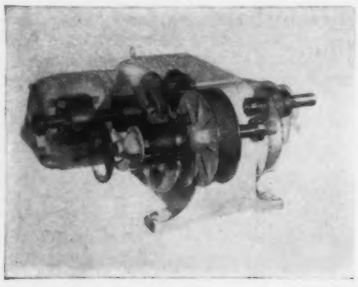
Roller Bearing Finish

A major improvement in surface finish, termed "Mirror Finish" is being applied to Timken bearings as rapidly as the special equipment required can be built and installed.

The Timken Roller Bearing Company, Canton, Ohio.

Varidrive Motor

Applications of the Varidrive motor in textiles include spinning frames, twisters, mercerizers, calenders, winders, beamers, warpers, etc. This unit embodies an electro-mechanical power conversion which changes the fixed, constant speed of the motor to variable speed on the take-off shaft. It is completely enclosed. It provides quick change to any speed while in operation, with speed variations as fine as 1 r. p. m., is anti-friction throughout, and is available with local or remote control for speed changes without stopping the motor. It has a simple, squirrel cage constant speed motor with the Varidisc transmission.

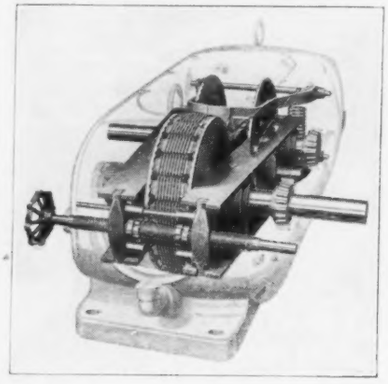


Varidrive motor

U. S. Electrical Manufacturing Company, Los Angeles, California.

Motorized Variable Speed Transmission

The P. I. V. gear variable speed transmission has been recently designed to permit its being furnished: motorized with motor forming an integral part of the unit; with or without speed reduction gearing; with horizontal or vertical box; and in five sizes up to 15 h. p. capacity. The motorized construction eliminates the need of a separate motor based plate. The basic unit is an all-metal automatically lubricated device employing a specially designed side contact chain operating between adjustable-diameter wheels with radially-cut teeth, for transmitting power positively from input to output shaft.

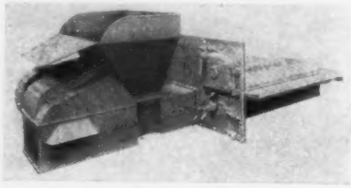


Motorized variable speed transmission

Link-Belt Co., 910 South Michigan Ave., Chicago, Ill.

Stoker-Unit

A new self-contained stoker unit applicable to boilers ranging from small heating units to power boilers up to 400-hp., has a screw conveyor which advances the coal from the hopper to the entrance of the retort and a reciprocating pusher in the retort continues the feeding and provides agitation for the fuel bed. Coal distribution is accomplished by the lateral movement of moving grate bars which alternate with fixed bars. An integral blower with inlet damper control, supplies air to the windbox under the stoker. The volume of air is regulated automatically through a control lever to suit the stoker speed. A constant speed motor drives the stoker through



Stoker unit

NEWS OF THE YEAR for Payroll Departments

4 IN 1 PRICES REDUCED 20%

At their new low prices, the patented 4-in-1 pay envelope costs but little more than the ordinary pay envelope. The time they save and the errors they prevent will actually pay your total payroll envelope cost. Prove the truth of this statement—by trying the 4-in-1!

Any Kind of Envelope You Need in Your Mill

Atlanta Envelope can supply any envelope you need in your business. Made to your individual order, you can be sure they are fresh, with tight-fitting seams and sure-sealing flaps. Give us an opportunity to quote on your next order.

ATLANTA
ENVELOPE
COMPANY

505-7-9-11 Stewart Avenue, S. W.
ATLANTA, GA.

Established 1893

The Perfect Eye for Perfect Fabrics!

The heddle eye can easily make or break a perfect run of material. Perfect production can only be obtained when the shape, turn, and polish of the heddle eye are absolutely correct for the particular warp thread traveling thru it.

The knowledge, methods, and processes of producing heddles that will not cut, jag, or chafe the warp threads are not arrived at "over night"—it takes years of intensive thought, experimentation, and research.

The "STEHEDCO" line of Flat Steel Heddles comprises a special type for every woven fabric—the eyes of which are perfectly designed to overcome the particular problems encountered with specific warp threads.

If you would draw several steps nearer perfect production, ask our Field Representative to show you the types best suited for the particular fabrics you produce.

Steel Heddle Mfg. Co.
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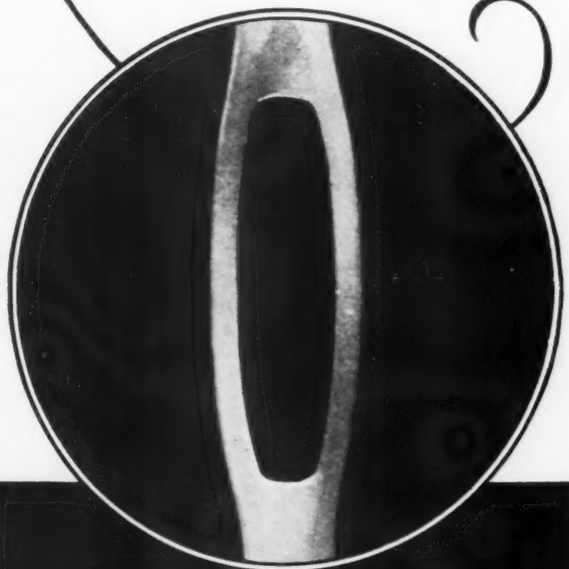


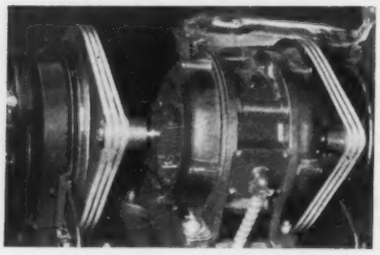
QUALITY LOOM HARNESS EQUIPMENT
TRADE MARK
Stehedco
flat steel HEDDLES

an integral variable-speed transmission permitting 16 rates of coal feed.

Combustion Engineering Corp., 200 Madison Ave., New York City.

Double-End Loom Drive

In a new double-end loom drive, a single motor turns both clutch gears through Vulco ropes. In applying this to a 200-loom installation, the old motors were taken off, the looms set four inches closer, L-shaped rings bolted to each of the clutch gears to make flat pulleys for the rope drives, and then the single motor was mounted.

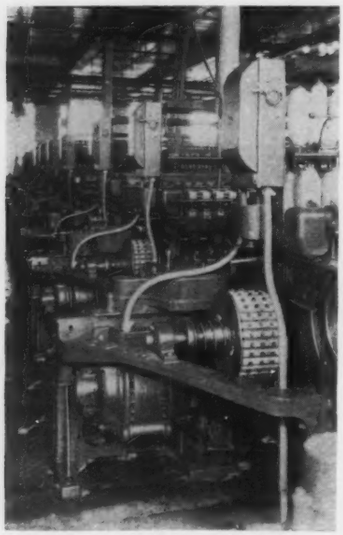


Double-end loom drive

The Gates Rubber Co., Denver, Colorado.

Variable Speed Spinning Drives

Developments and improvements on the variable speed spinning drives include a new drive which provides for driving frames by belt, either two or four frames, from overhead motor or line shaft. Improvements have also been made in the design and construction of both belt-driven and motor-driven units. The hydraulic automatic control was designed primarily for use with wool or worsted frames or any frame with large package.



Variable speed spinning drive

Reeves Pulley Company, Columbus, Ind.

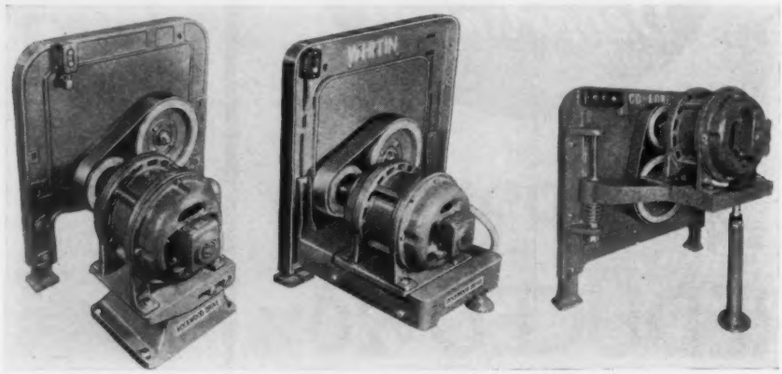
Addition to Bearing Line

The "GreaSeal" felt-protected line of ball bearings has been extended to include three larger sizes, of 40, 45 and 50 millimeter bore. This applies to the three series in this line: the 7000 series with single felt seal; the 7000-1 series with single felt seal and plate shield wholly enclosed; and the 77000 series with double felt seal, wholly enclosed. All three of these types have the "GreaSeal" construction involving a removable felt seal consisting of thick, closely fitting felts against removable plates, for forming an effective labyrinth against the recessed inner ring.

The Norma-Hoffmann Bearing Corporation, Stamford, Conn.

New Rockwood Spinning Drives

Three new types of spinning drives employing the Rockwood base were announced. In one, the base is constructed so that the motor is mounted 8 inches off the floor, called the floor mounting. The driven pulley speed is maintained. Another has the shelf type or bracket mounting, with the pivoted motor base recessed in the welded steel shelf, and the motor 8 inches off the floor. The third is a special vertical drive base with the motor mounted above the driven pulley to give maximum clearance from the floor, and permits wide range in the selection of pulley sizes, belt lengths and driven speeds. Correct belt tension is maintained by rugged springs beneath the motor shelf. The drive is reversible without any change or adjustment, speed changes being accomplished by changing only the driven pulley diameter.



Three types of spinning drive bases

Rockwood Manufacturing Co., Indianapolis, Ind.

Hydraumatic Control

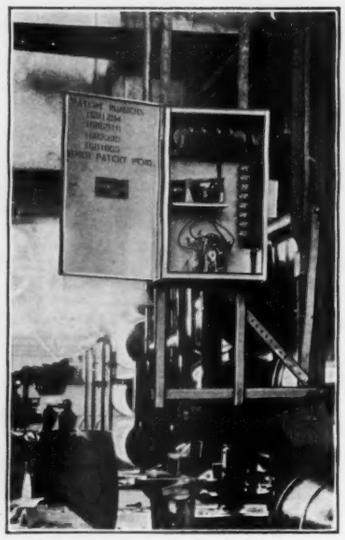
A new automatic control for the variable speed transmission is designed to meet requirements for a control which would operate from very slight indicating movement and eliminate all "hunting" action in making speed changes. This control, operating through hydraulic action, is actuated by an indicating lever attached to some element such as compensating or floating roll, pressure regulation, float, or moving part of machine, from which indication of required speed can be taken. The control parts are housed in a compact enclosure mounted on the transmission.

Hydraumatic cotnrol

Reeves Pulley Company, Columbus, Ind.

Range Drive and Control

In a system of automatic drive and control for range finishing, one of the machines in the range is driven by a transmission on which the speed is controlled manually; all of the others are driven by transmissions automatically controlled by a contactor operated by floating rolls between the different machines. The manually operated transmission is used to set the speed of the range to suit the particular conditions and the speeds of the other machines are automatically maintained in proper relation to each other to suit the changing conditions of the process. The floating rolls are carried by the cloth and move up or down in their slots with any change in the slack. This movement operates the contactor which engages contacts in the control circuits to operate the switches controlling the pilot motor. The motor operates intermittently or continuously depending on the extent of the movement of the floating roll. In case of cloth break-



Part of range drive and control

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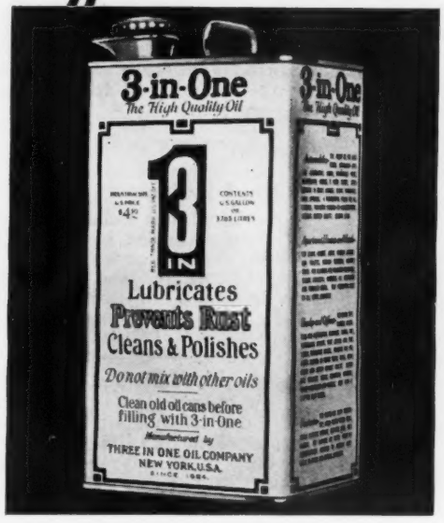
better protection



Any smoker knows that tobacco flavor is improved by skilful blending. Just as surely, expert blending of several oils produces a lubricant that will protect mechanical equipment far better than any single element oil.

That is why we blend 3-in-One from three different oils —animal, mineral and vegetable. Each oil adds to the protection 3-in-One provides. Actually, when you buy it, you buy three oils that work together to keep parts cleaner, well-lubricated, free of rust.

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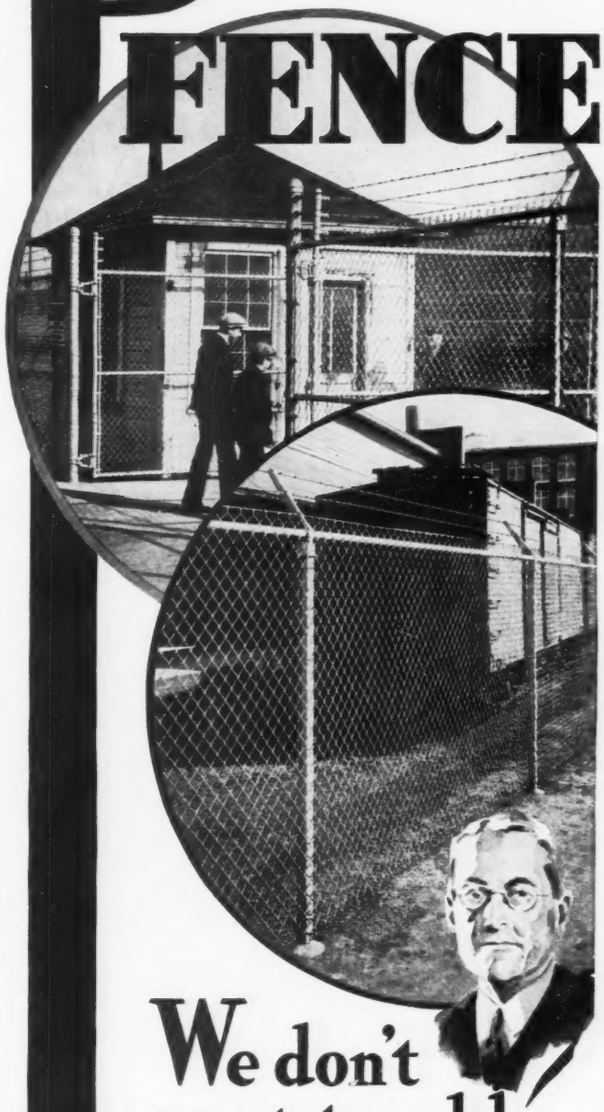

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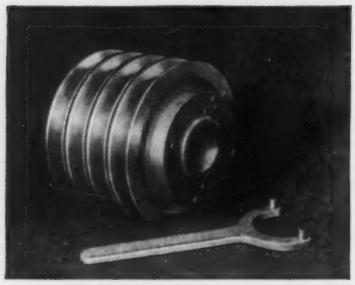
age, the roll drops to the bottom of its slot and disengages the control circuit and no further automatic control takes place until the cloth is spliced and the machines are started again.

Lewellen Manufacturing Company, Columbus, Ind.

Vari-Pitch Texrope Sheave

A new development in power transmission is known as the Vari-Pitch Texrope Sheave. By means of a simple adjustment, the pitch diameter of this new sheave can be changed to give variation in speed as high as 15 to 25 per cent per sheave. If both



Vari-pitch sheave

sheaves of a drive are of this new type the range of variation can be doubled. These new sheaves are made in two multi-groove types, stationary and motion controlled. The stationary controlled type is recommended for applications requiring occasional change of speed; the motion controlled type for applications requiring frequent quick changes within the full range while the drive is in operation. The new sheave drive, which uses texrope belts, it is pointed out, permits higher or lower speed operation according to the respective product range requirements of the driven machine.

Allis-Chalmers Manufacturing Co., Milwaukee, Wis.

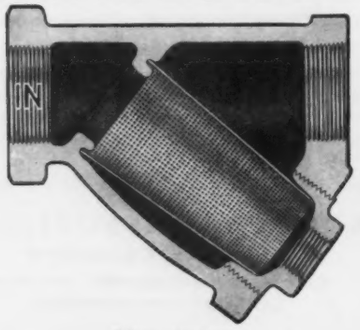
Stoker Nut Coal

A new development in coal, a stoker nut coal, is screened twice, and receives another treatment, in which it is passed over an electric magnet to withdraw scrap iron and other foreign metal objects. It is described as being a coal that is clean, of intense heat, low ash, and hard structure, especially adaptable for stokers, small and large.

A. T. Massey Coal Company, Richmond Trust Bldg., Richmond, Va.

Strainer

The Type 260 "Fre-Flo" Strainer is a Y-type strainer for removing dirt, scale and other foreign material. A large free area through a renewable screen is designed to offer practically no more resistance to the flow than a pipe bend constructed for lines handling water, air, gas or steam. The strainer is self-cleaning by removal of the bottom plug and screens are replacable. The strainer is made with either bronze, semi-steel, or forged steel bodies, with bronze or stainless steel screen, in sizes ¼-inch to 6-inch, and may be used on either horizontal or vertical pipe lines.

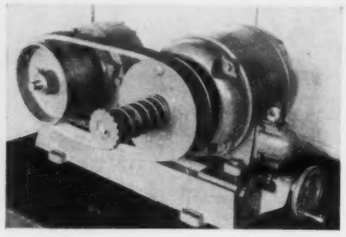


New strainer

Fisher Governor Company, Marshalltown, Iowa.

Gear Reducer and Motor Pulley

Increased requirements for unusual speed reduction through the use of a gear reducer with the vari-speed motor pulley led to the design of a new type



Gear reducer-motor pulley

of standard base on which both units are mounted in a compact installation, the motor pulley driving direct to the reducer.

Reeves Pulley Company, Columbus, Ind.

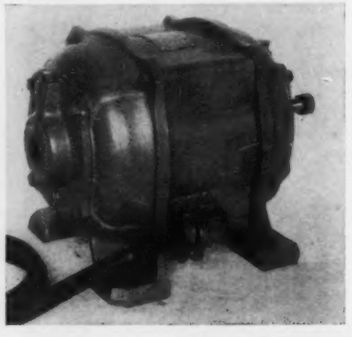
Electric Remote Control for Vari-speed Motor Pulley

A recently perfected control for the vari-speed motor pulley is a simplified adaptation of the transmission designed for requirements of limited speed ratio and smaller horse-power. By means of this control, push-button regulation of machine speeds through the motor pulley may be exercised from any point or points in the plant as most convenient.

Reeves Pulley Company, Columbus, Ind.

Improved Loom Motors

A line of improved ½ to 1 h. p. loom motors for cotton mill applications are totally enclosed to exclude dust and lint, and rated on the basis of 40 degrees C. temperature rise for continuous operation at full load. Adequate overload capacity is provided to safely carry sustained overloads without injury to the insulation during the breaking-in period of a new loom. The



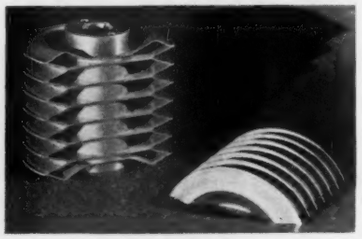
Improved loom motor

stator core is rigidly and permanently held in alignment by four steel angles electrically welded along their entire length to the outside surface of the laminations. The terminal fitting for the flexible conduit is so fastened to the motor frame that it cannot become detached on account of vibration.

Westinghouse Electric and Manufacturing Co., East Pittsburgh, Pa.

New Re-Inforced Sheave

In a new re-inforced steel sheave, known as Duro-Brace Texsteel, the outside walls are reinforced by a convex steel plate to strengthen these vul-



Reinforced sheave

nerable areas and eliminate the possibility of distortion. Welding at the rim and web, for additional strength, and interior grid-type construction, for rigidity—features of the former design—are retained.

Allis-Chalmers Manufacturing Co., Milwaukee, Wis.

Vim-Tread Belting

The original Vim leather belting has been given a treaded surface made by indenting the rib, to produce "vim-tred" leather belting designed especially for main drive and line shafting.

E. F. Houghton & Company, 240 West Somerset Street, Philadelphia, Pa.

Industrial Humidity Indicator

A new instrument has been designed to read relative humidity with micrometer precision. It is 4⅝ inches x 1½-inch deep in a heavy stamped metal case and back, and shows relative humidity on a cream colored metal dial

Humidity indicator

with black figures and black indicating hand. The scale reads the relative humidity directly, without calculation, from zero to 100 per cent relative humidity. It requires no attention to filling wells and replacing wicks, and no thermometer readings are necessary.

Fee and Stemwedel, Inc., 221 West Chicago Ave., Chicago, Ill.

How DO YOU BUY BEARING BRONZE ?

Quality

Bearing Performance is the only indication of quality in Bronze. In maintenance work or transmission of power we invite the comparison of Johnson UNIVERSAL Bronze with any you have ever used. . . . . Check it point for point—its conformability—the low coefficient of friction—its resistance to wear. The alloy of Johnson UNIVERSAL Bronze—S. A. E. 64—has a reputation gained thru more than 60 years consistent preference as the best General Purpose Bearing Bronze available.

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If first cost determines your selection of Bearing Bronze—we can save you 25% in purchase weight with Johnson UNIVERSAL Bronze Bars. Complete machining—ID-OD and Ends allows you to select a bar so close to the finished size that only a 1/64" cut remains to be taken. Add to this the tool and time saving features plus the quality bearing performance and you have the most economical bronze on the market.

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Industrial Distributors—everywhere—carry complete stocks of Johnson UNIVERSAL Bronze. With 215 sizes of Bars and over 600 sizes of Bushings to choose from—your needs can be filled immediately. Write today for a copy of Bulletin 340. It contains complete size information and the name of your nearest source of supply.

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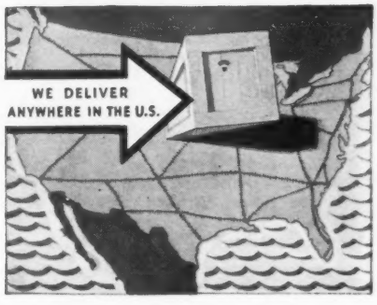

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RAILWAY EXPRESS AGENCY INC.

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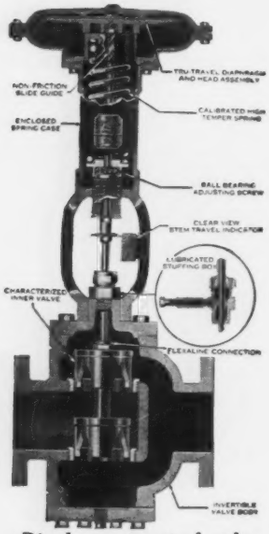
Diaphragm Control Valve

A pressure reducing valve, the Type 57-T diaphragm control valve, is designed to receive a varying or high pressure at the inlet side and automatically deliver a constant reduced pressure to the outlet system whether the element be water, oil, steam, air, gas or other fluid. The valve is de-



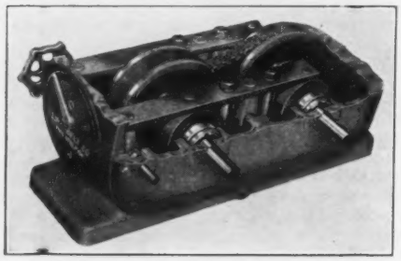
Diaphragm control valve

signed with few working parts, rugged and simple construction, with full capacity body and large valve ports to eliminate excessive pressure drop through the body. The construction provides a balanced inner valve with beveled ground seats to eliminate binding or friction and to provide more sensitive control. The diaphragms are made of several compositions, each compounded especially for its element. The valves are available for reduced pressure up to 100 pounds and in flange or screwed bodies for ½-inch to 8-inch lines.

Fisher Governor Company, Marshalltown, Iowa.

Variable Speed Transmission

A self-adjusting positive variable speed transmission has been developed for fractional horsepower duty, capable of a horsepower output of ½ h. p. at maximum speed, with maximum ratio



V.R.D. variable speed transmission

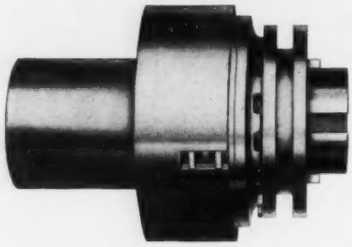
A portion of V.R.D. chain

of speed variation of 10 to 1. It is supplied with horizontal or vertical box, with or without reduction gearing, and can be supplied motorized, with motor forming an integral part of the unit. A side-contact roller chain, consisting of steel links, made endless and connected by hardened steel pins in hardened steel joint bushings, is used for transmitting the power from input to output shaft.

Link Belt Co., 910 South Michigan Ave., Chicago, Ill.

Small Clutches

A line of small clutches carries three sizes, with 5⅝-inch, 4½-inch, and 3½-inch outside diameters in single plate for fractional horsepowers, and multiple plate for heavier drives. They may be operated singly or doubly, or



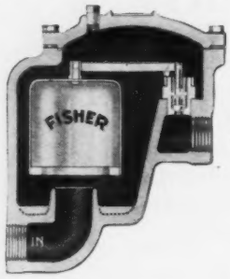
Small clutch

for forward and reverse drive, either dry or in oil. They have hand adjustment, and are proofed against centrifugal force. A set-screw or a set-screw and key are the only means necessary for attaching to shaft.

Conway Clutch Company, 1543 Queen City Ave., Cincinnati, Ohio.

Bucket-Type Steam Traps

In the ST Inverted Bucket-type Steam Trap, the entire top can be removed to provide access to all parts. Horizontal pipe connections are used for easy installation and ready inspec-



Inverted bucket-type steam trap

tion of interior parts without disconnecting the pipe line. The traps are designed with heavy, rugged construction, a rustless bucket, stainless steel valve, seat and lever; and a guided inner valve to insure positive seating and minimum wear.

Fisher Governor Company, Marshalltown, Iowa.

Additions to Switch Line

Addition of 100 and 200-ampere switches to the 50,000 line of Type A switches completes the line up to and including 200 ampere switches in either standard sheet metal boxes or cast aluminum enclosures, with cast iron enclosures optional. The new 100 and 200-ampere numbers have all the features of the 30 and 60-ampere switches with the addition of other points required by the higher capacities. They are quick-make, quick-break, with interlocked covers and elevated removable bases for easier wiring. Double break contacts with steel spring reinforcements are used to insure constant pressure on the contacts for reduced heating and positive pressure contacts.

Square D Company, Detroit, Michigan.

Diaphragm Valve

In a new long range throttling top diaphragm valve, the member in contact with the bottom of the spring does not turn when the adjusting speed

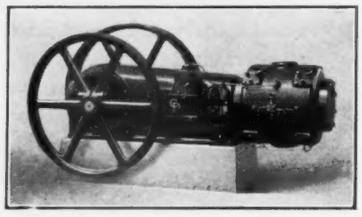
Diaphragm valve

screw is turned, but, guided by the two vertical fins of the spider arms, merely moves up and down. Thus, spring adjustment does not tend to wind up the spring or disturb its normal characteristic in any way.

C. J. Tagliabue Mfg. Co., Park and Nostrand Aves., Brooklyn, N. Y.

Air Compressor

A horizontal, single-stage air compressor is arranged for belts and direct connected motor drive, is double acting, water-cooled, with capacities from



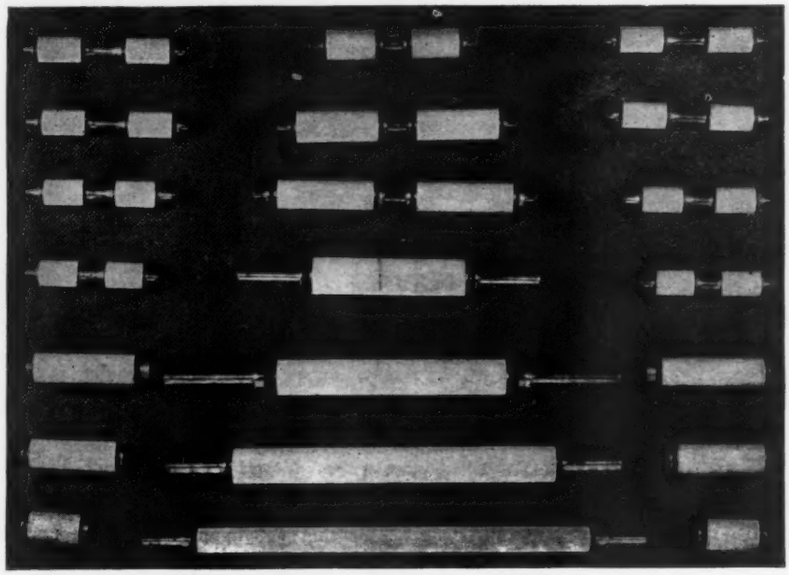
Air compressor

89 to 1293 cubic feet per minute. It has a completely enclosed frame with oil-tight and dust-proof covers, double counter-weighted crank shaft, water jacketed cylinder and heads, tapered roller main bearings, wedge-adjustable connecting rod, etc.

Chicago Pneumatic Tool Company, 6 East 44th St., New York City.

Splash Proof Motors

A new line of splash proof motors ranges from 1 to 100 h.p., and is recommended especially for outdoor installations where protective buildings or covers are not available. The frame and end brackets are of refined grey iron castings. The bearing bracket is fitted to the frame by a long contact sealed fit. Cartridge type grease lubri-



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Even felt cloths can stand out in their field, as is proven by the unanimous approval of "Philadelphia" throughout the textile industry.

Roller Cloths of the correct cushion and uniformity.

Clearer Cloths with thick strong nap that cannot pull out. Uniform length that clears rolls entirely of short fibre.

Slasher Cloths with enough cushion and porosity to thoroughly force sizing into yarn.

Philadelphia specializes in Stamping Blankets, Palmer and Sanforizing Blankets for Finishing, and Lapping Cloths for Printing.

We will gladly assist you on felt cloth problems. Write us today.

PHILADELPHIA FELT COMPANY
FRANKFORD, PHILADELPHIA, PA.

Philadelphia *Felt Cloths*

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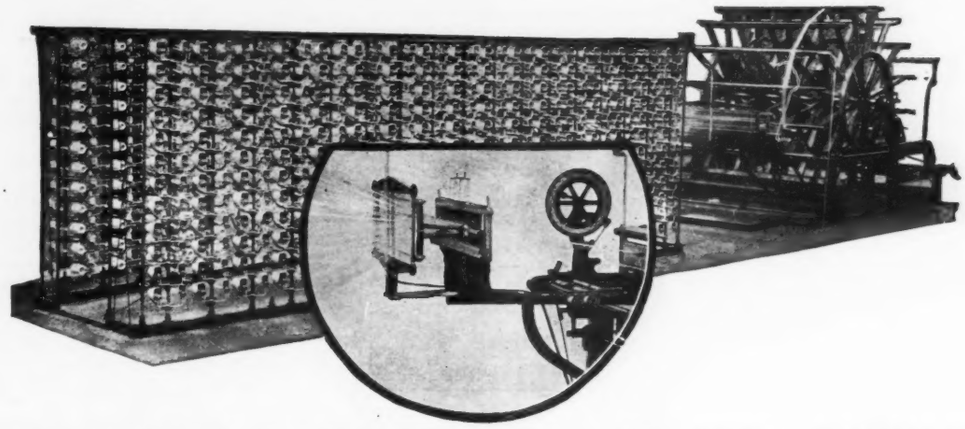


"THE BEST RAYON CREEL IN THE WORLD"

Says Leading Silk Mill

A leading fine goods mill who have a deserved reputation for the high quality of their synthetic yarn fabrics are the authority for the above statement.

They say "Yours is the best rayon creel in the world. We like the whole set-up. The tension device is particularly good. It is the heart of the machine. We get fewer broken ends and a better beam than with any other creel we have ever used. The efficiency of this creel is very high."

A second mill tells us that "Recently we warped and beamed more than 52,000 yards of rayon and had only 5 broken ends."

You too will get equally satisfactory results with this creel. It will pay you to investigate today.

SIPP-EASTWOOD CORPORATION
PATERSON, NEW JERSEY

Manufacturers of high-speed warpers, overend cone creels, oilless bearing winders, redraw frames, quillers, re-beamers, edge warpers, tensometers, densimeters, quiller tensions, and static eliminators.

Representatives:
CAROLINA SPECIALTY CO., Charlotte, N. C.
PROVEEDORES TEXTILES, Mexico City

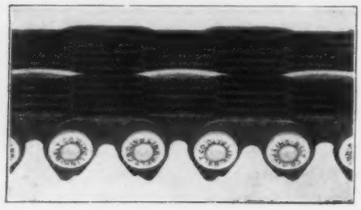
ITS A TRADE MARK SIPP EASTWOOD

cated ball bearings are used on all sizes.

Century Electric Company, 1806 Pine Street, St. Louis, Mo.

New Design in Silent Chain

A "new dress" has been given to an established product, the silent-chain drive, by bluing most of the chain and



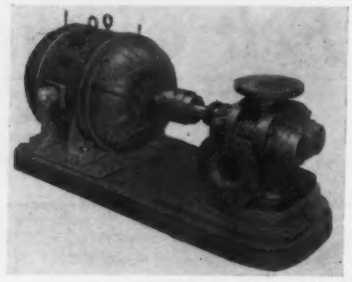
New chain design

treating the washers and guide bars to give them a silvered appearance.

Link Belt Co., 910 South Michigan Ave., Chicago, Ill.

Rotary Pumps

Rotary pumps in an improved design are built in seven sizes for pressures up to 100 pounds per square inch and in capacities up to 700 gallons per minute. Sleeve bearings are constant-



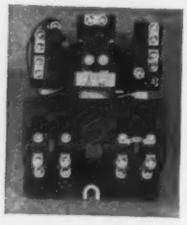
Rotary pump

ly lubricated by the flow of liquid being pumped. The only two moving parts are steel herringbone pumping gears operating in a cast-iron case.

George D. Roper Corporation, Rockford, Ill.

New Contactor

A new line of 15 and 25-ampere contactors utilizes the De-ion principle of arc interruption, with special consideration given high voltage conditions, the



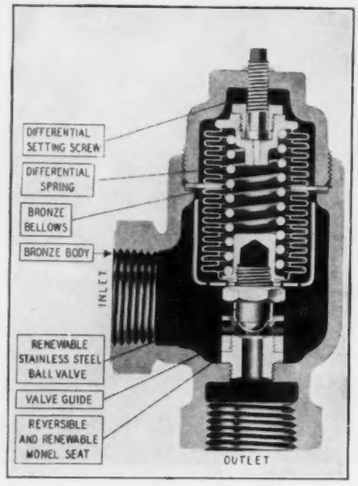
De-ion contactor

contactors are conservatively rated for 600-volt service. The confinement of the arc within the de-ionizing chamber permits a compact design desirable for built-in applications. Double break silver contacts are used. A shock-proof vertical lift solenoid prevents closing due to tilting, sudden jolts, etc.

Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.

Steam Traps

A new thermostatic steam trap for industrial use is available in ½-, ¾- and 1-inch sizes. The Tag differential setting feature is included. An adjusting screw at the top of the trap



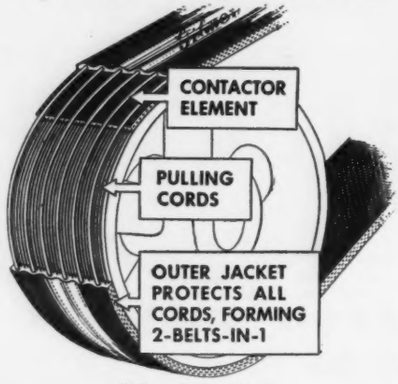
Thermostatic steam trap

may be set to discharge condensate at a temperature corresponding to as much as 20 pounds less than the operating steam pressure without further adjustment. The valve has a renewable and reversible double life Monel seat, and a renewable stainless steel ball valve.

C. J. Tagliabue Mfg. Co., Park and Nostrand Avenues, Brooklyn, N. Y.

Oil-Resisting Rubber Belt

An oil-resisting rubber belt has been developed for use with the V-belt and "Kable Kord" flat belting exposed to oily conditions. Each V-belt is made individually and is built to full-load tension measurement so that after put in operation and seated in the groove, it gives the exact length desired. Rub-



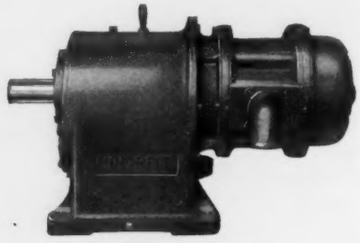
Oil-resisting belt

ber compounds are employed which are designed to prevent undue heating and to provide a firm bond between plies of load-pulling cords. The flat belting is constructed on a "two-belts-in-one" design, in which the lower load-pulling element is squeezed against the pulleys by the upper "Kable Kords". The endless belt is built without splice and designed to be highly resistant to stretch. The cone belt is designed for shifter service with the edges re-inforced to resist wear. On spinner belts, for silk and rayon throwing, an interlocking-butt splice, which may be made on the job, is used.

L. H. Gilmer Co., Tacony, Philadelphia, Pa.

Motorized Speed Reducers

In a new line of motorized helical gear speed reducers, accessibility of the motor and the high speed gears is stressed. A standard round-frame motor is secured to the side of the re-



Motorized speed reducer

ducer housing by means of an adapter casting which supports the motor shaft in over-size anti-friction bearings close to the pinion. The complete motor, with adapter and motor pinion, may be removed as a unit for inspection or maintenance without disturbing the alignment of the motor or of the gears remaining in the reducer housing.

Link Belt Company, 910 South Michigan Ave., Chicago, Ill.

Electric Controls Improved

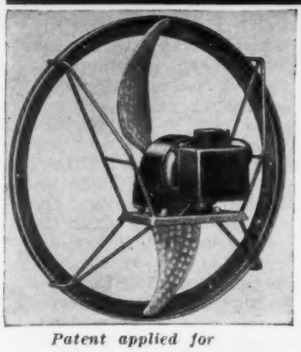
Electric remote and electric automatic control for the Reeves transmission have been improved. The new controls are of simplified design with fewer operating parts, to provide greater quiet in operation and longer life. The reduced size permits greater flexibility in locating the control which formerly had to be mounted in one fixed position on the transmission. It can now be mounted in any convenient location on or near the transmission.

Reeves Pulley Company, Columbus, Ind.

Cotton Mill Belt

A new type of transmission belt, Highflex Junior has been designed specifically for cotton mill use. Although made with flat-laid plies and straight-cut edges as in standard Highflex, the duck is different, differing in design of yarn, nature of weave, percentage of crimp and percentage of moisture in duck during various stages of manufacture. There are more plies for a given thickness to produce greater strength. The result is a lighter weight duck making for a softer, more flexible belting of uniform thickness, particularly suitable for operation over intricate, small pulley drives, it is stated. Highflex Junior spinner and loom belt, offered in medium and light weights, have a special surface free from rubber, that does not shed or become sticky. Both types of belt lend themselves to the Goodrich Plylock splicing method, and with the aid of a special portable electric vulcanizing press, developed for this purpose, may be made permanently endless on the pulleys. The manufacturers state that it was determined that one of the reasons for previous rubber belt failures was the lack of proper conditioning prior to installation; that, because of the cotton duck, the rubber belt shrinks when

REDUCE *Ventilation* COSTS!



Patent applied for

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In comb-boxes NON-FLUID OIL outlasts liquid oil 6 to 8 times. It "stays put," keeping off card clothing and stock.

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Better Lubrication at Less Cost per Month

MOREHEAD SAVES YOU UP TO 35% ON FUEL!

IT'S like putting money in the bank when you install the MOREHEAD Back-to-Boiler System. Not only does Morehead pay for itself in fuel savings alone, but it also creates an investment that pays substantial dividends year after year. That's because Morehead *increases production* and *lowers plant maintenance costs* as well.

Here's How Morehead Operates

1. Drains all kinds of steam-heated apparatus immediately and thoroughly.
2. Enables apparatus to work at capacity, thus increasing production.
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4. Uses only 10% of steam required by pump doing the same work.
5. Simple efficient operation lowers plant maintenance costs.
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Now **you can afford the Morehead System under the new F H A regulations. NO MONEY DOWN—THREE YEARS TO PAY**

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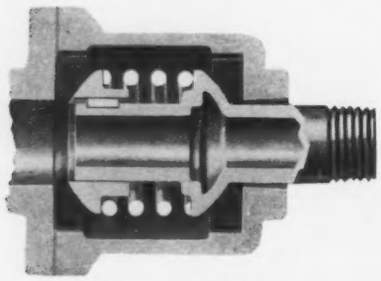
exposed to damp atmosphere, whereas leather belting tends to stretch.

The B. F. Goodrich Company, Akron, Ohio.

New Type Stuffing Box

A new type of stuffing box has been applied on textile machinery where steam or liquids are introduced into rotating cylinders. The rotating member consists of a flange nipple, which attaches to the roll of the rotating machine, and the flange, which has a sliding fit but is keyed so that it rotates



New stuffing box

with the nipple and is free to slide endways. Between these two ball-end parts and the housing are two carbon graphite composition rings which effect a seal. The ball-end parts are initially held in position against the seal rings by the spring, but when steam, water, gases, etc., enter the joint, the pressure becomes the actual sealing force.

This construction eliminates the necessity of packing, springs and adjustments, it is explained, because the end is "pressure-sealed" against the carbon graphite seal rings. The joint is automatically sealed in direct proportion to the pressure. The spherical ends of the rotating member take care of angular misalignment, while lateral movement is provided to take care of misalignment due to pipe expansion, bearing wear, etc.

The Johnson Corporation, Three Rivers, Mass.

Compass Belt

A new patented dove-tailed splice has been evolved for the Compass endless belt making the belt applicable in either factory-built endless construction or made endless by vulcanized splice. The belt is built of a single layer of cords with all the ropes contained in one plane and in one pocket.

The Goodyear Tire & Rubber Co., Akron, Ohio.

Textile Applications of Anti-friction Bearings

A loom friction clutch bearing, a dry can bearing application, a calender roller bearing, and a cam and crankshaft loom bearing are among the recent textile applications of standard Fafnir bearings. A thrust bearing arrangement for loom friction clutches has been developed, with the bearing sealed and grease lubricated. Through the use of self-aligning ball bearings on dry cans, indefinite operation with little attention, partly through the incorporation of an air gap between the stuffing gland and the section which houses the bearing itself, tends to dissipate the heat generated by the steam entering through the passage provided in the base, and the journal is made automatically aligning.

A specially designed roller bearing box with a standard industrial roller bearing is used for calender stacks for increasing the speed of operation and securing longer belt life. The cam and crank-shaft bearing applications for looms employ wide inner ring bearings of easy application, with housings specifically designed for ready application.

The Fafnir Bearing Company, New Britain, Conn.

Steam Trap

The head of a new inverted-bucket trap is threaded for inlet and outlet pipe connections to permit connection of the inlet either vertically, at right angles with the outlet, or horizontally

Inverted-bucket trap

in line. Water, air and steam entering the trap are carried downward through a center tube where they are directed at the bottom of the trap and do not impinge on the inverted bucket. The outside of the vertical inlet tube is hexagonal shape, presenting knife-edge guides for the buckets. The lower housing may be removed without disturbing the pipe line connections. The working parts are of heat-treated stainless steel. Valve and seat are of a chrome alloy known as Anderloy.

V. D. Anderson Company, 1935 West 96th St., Cleveland, Ohio.

Potentiometer Pyrometer

The new Wide-Strip pyrometer, operating on the potentiometer principle of temperature measurement, is available in single-record, multiple-record and recorder-controller types. A stainless steel lead screw, operated by an electrical motor under the direction of two galvanometer-controlled contacts, adjusts the slide-wire contact and recording-pen unit to maintain emf balance in the potentiometer system. All mechanical backlash is taken up, no clearance is required between the pointer and the chopper arms; deflections smaller than 1/1000-inch are readily measured. The pen movement is always proportional to the size of the galvanometer deflection. The slide wire contact and recording pen are mounted on the same carriage. The carriage on which is mounted the slide wire contact and recording pen runs on four wheels over a substantial two-rail track. Three-point contact with the rails insures positive motion. It is driven through engagement with a hardened steel pin by a stainless steel lead screw which is mounted on permanently lubricated ball bearings and is positively driven by an induction-type motor.

The Bristol Company, Waterbury, Conn.

Pump with Removable Casing

A novel design pump has been developed in which the nozzle can be swiveled about so that it may be pointed in any direction desired, with easily replaceable casings where abrasive and acidulous liquids must be handled. The pump proper is secured in a clamp tight frame by the machined fitting, permitting the entire pump to be assembled and centered-up in line, the bearing pedestal and the fitting in the clamp cap being machined at one setting. Fafnir double row bearings of the 5200 series are used. The fact that the casing is separate and removable from the support frame is pointed out to mean that the weight of the parts coming in contact with the liquid is reduced to a minimum. Replacement of the casing may be made without disturbing the mounting of the pump or the alignment of the pump and motor.

The Frederick Iron and Steel Company, Frederick, Md.

New Motors

A self-excited, self-synchronizing, self-contained general purpose synchronous motor has been developed, known as the "Self-Syn" motor.

A new totally enclosed, fan-cooled motor employs in its construction two shells, the inner shell being dust-tight and enclosing winding and rotor. Tight sealing is obtained by machined metal to metal stationary joints with long close fits, no running seals. A fan mounted outside this shell forces a blast of air between the inner shell and the outer one, to provide effective cooling.

The Ideal Electric & Manufacturing Co., Mansfield, Ohio.

Diesel Engines

Diesel engines have been developed for medium size and smaller units, 1,000 h. p., down to 25 h. p. The new equipment is a new standardization on the vertical four cycle direct injection type for direct power or electric power generation. The engine, when so required, can be built with all running parts totally enclosed in dust-proof, oil-tight covers where the air is heavily dust- or lint-laden or where other matter is likely to foul the engine gear.

Worthington Pump and Machinery Corp., Harrison, N. J.

Research Leather Belting

"So that power transmission shall be better" an extensive research undertaking was made in laboratory and factory, to produce Research Leather Belting. During the period of development and since the announcement of the new product, much data on service, life and efficiency of this new belting have been accumulated. In its development, special attention was given to fiber arrangement resulting in the elimination of most of the permanent stretch and the production of a new high friction surface, to produce a thoroughly modern, highly economical power transmission medium. The manufacturers report that the new type of belting delivers full power at normal tension; that recent tests showed it de-

Automatic Spooling REDUCES *Costs...*

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about 67% of an operator's time when using a Hand Knotter is taken up in finding ends, operating the Knotter, and controlling slack after tying.

THE *AUTOMATIC SPOOLER,*

by doing this work mechanically, increases the rate at which bobbins can be handled and this reduces spooling costs.

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Modern Industry depends mightily on those who carry on the everlasting and exhaustive work of technical research—"the Spade Work of Progress." We seldom hear of them. Their names are not known. They are the unsung heroes of Industry.

For 36 years men of SONOCO have carried on this task in the field of paper carriers for the Textile Industry—to the end that nowhere in the world have the same efficiencies, high speeds, and low costs been achieved in the packaging and winding of Yarns, as in American Textile Manufacturing.

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livered 132 to 136 volts under full load, as compared with 42 to 64 volts for belts of ordinary oak tannage. At 50 per cent overload it delivered 96 to 98 volts, while under the same conditions. ten other brands of ordinary belting averaged 50.3 volts.

Graton & Knight Company, 356 Franklin St., Worcester, Mass.

New Motors

In a new line of squirrel cage normal torque and high torque motors, special attention has been paid to the construction which includes cast frame and end brackets, ample sized shafts and bearings and well anchored field and rotor cores. The latest offerings of the wire drawing industry, includ ing electrolytic copper bars and end rings joined to form a homogeneous high conducting joint, are used.

These motors are available in sleeve or ball bearing designs as required, and are available in sizes 600 h.p. and smaller.

Century Electric Company, 1806 Pine Street, St. Louis, Mo.

Oil-Proof V-Belt

An oil-proof v-belt, for use where excessive oil in power transmission is a problem, has been developed following five years of development of the uses of synthetic rubber and various synthetic resinous materials. The new belt carries the same laminated construction principles as the regular Dayton cog-belts for general transmission applications, plus the specially designed casing of the new synthetic compound to resist oil. This compound, it is explained, has all of the properties of natural rubber, such as flexibility, plasticity and resiliency, plus aging properties many times that of rubber, and much greater abrasive and wearing qualities when subjected to oils and solvents.

The Dayton Rubber Manufacturing Company, Dayton, Ohio.

Centrifugal Pumps

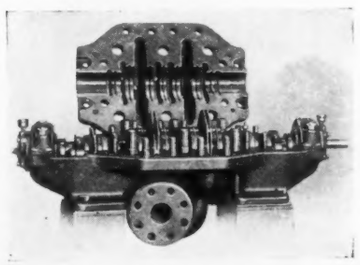
A special centrifugal pump, single or two-stage type with electric motor, is built into one complete unit. Sizes 1-inch to 4-inch are made in special metals for special needs. The pumps are fitted with closed impeller, arranged with steel tanks for automatic condensate return unit. They are also built with equipment for positive self-priming. The pump is designed for bolting to a stationary foundation or mounting on trucks for portable use.

Worthington Pump and Machinery Corp., Harrison, N. J.

New Centrifugal Pumps

The new Type MM Multi Feed pumps are designed for heads from 400 to 1600 feet and capacities up to 400 gallons per minute. They are designed particularly for boiler feed, humidifier service and other high head pumping service. They are horizontal shaft, split casing, double suction, bronze fitted. The use of double suction runners, it is explained, equalizes end thrust and eliminates the use of internal balancing arrangements. The pressure on the stuffing boxes is kept to approximately the suction pressure.

Allis-Chalmers Mfg. Company, Milwaukee, Wis.



Mutli-stage centrifugal pump

Gear Motors

A new line of gear motors and speed reducers include helical as well as worm gear drives either direct connected or coupled type in single, double and triple reduction for horizontal, vertical and right angle drives. They are particularly adapted to drives which require ¾- to 75-horse power and speeds down to 6 r. p. m. on the slow speed shafts when used with 1750 r. p. m. motors. Oversize anti-friction bearings are used. The gear motors are available with any type of motor.

Diehl Manufacturing Co., Elizabethport, N. J.

Centrifugal Pumps

A new line of centrifugal pumps features details such as double wearing ring construction, heavy duty bearings and extra deep stuffing boxes. The sleeves are readily tightened, and horizontally split casings are used for quick accessibility. These pumps are heat treated, with high carbon alloy steel shaft, bronze impellers, dust proof and splash proof bearing housings. Types B and C are made to cover heads up to 300 feet.

Gardner-Denver Company, Quincy, Ill.

Automatic Motor Starters

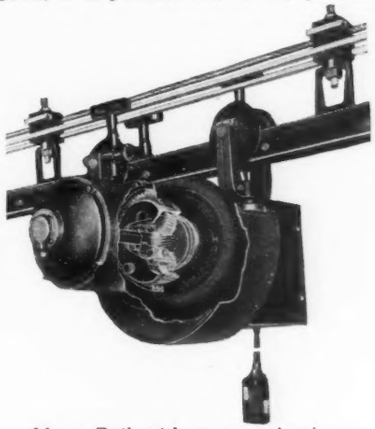
A new line of automatic motor starters is designed to prevent accidental starting. They are furnished in three types for different horse-powers, and meet underwriters requirements. Moving parts are thoroughly reinforced and rust-proofed by cadmium plating. Moving contacts may be removed without tools, and stationary contacts with screw-driver only.

The Lincoln Electric Co., 12818 Coit Road, Cleveland, Ohio.

General Factory and Shop Equipment

Pneumatic Tire Tractor for Mono Rail

A pneumatic tire tractor applied to the Mono Rail, provides traction through pressure of a pneumatic tire against the bottom of the steel rail for delivering tremendous draw bar pull at low power cost. This can be applied, it is pointed out, to any present system where the rail runway has a smooth undersurface. It provides easy starting, smooth handling and positive stopping, it is pointed out, eliminating wear on track and wheels due to slippage.



Mono Rail with pneumatic tire

It is applicable in the textile industry for handling stock in process where there is a concentrated amount of trucking between two points, or at any point where heavy handling is involved. It can be arranged for remote control so that a single carrier or train of carriers could be transported over long hauls from one building to another under remote control. The operator at one end of the line would start the train on its way and upon arrival at the other end, the train would automatically stop and could be sent on the return trip, without the necessity of sending an operative with the unit. Loads may be handled up and down heavy grades with accurate control in both directions. This is an outstanding development in overhead rail runway conveying equipment.

The American Mono Rail Company, 13107 Athens Ave., Cleveland, Ohio.

Weighing Machines

The Printomatic Weigher is designed to provide a permanent printed record of weight of bales, warp beams, finished cloth, etc. It is automatic, and no transfer of hand-written weights is necessary as the machine can be ar-

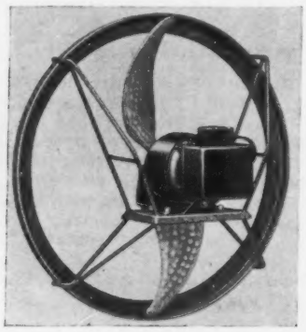
New weighing machine

ranged to print weights directly on most any size weight ticket. It is adaptable to Fairbanks dials now in service or on new dials of bench, portable or dormant types.

Fairbanks, Morse & Co., 900 South Wabash Ave., Chicago, Ill.

Propeller Fan

A new propeller, "The Birdwing", has been designed and applied to Charavay ventilating fans, the purpose of the new propeller, which closely resembles the opened wings of a bird, being



The "Birdwing" fan

to displace air with less noise. The fan has a new overlapping ring for increasing fan efficiency and preventing back flow of air, and rubber mountings to absorb vibration.

Hartzell Propeller Fan Co., Piqua, Ohio.

Time Recorder

In a new "Electro-Touch" time recorder, no levers are used. The registering plate is in the front of the recorder, just above the card receiver.

New time recorder

When the employee places his card in the receiver, he simply touches the registering plate with the same hand holding the card, an electric mechanism responds, and the time record is made.

Simplex Time Recorder Company, Gardner, Mass.

Water Cooler

A new water cooler designed especially for use in industrial plants where there is dust and lint in the air carries a special lint and dust trap in the waste water line. The capacity is six gallons an hour when the glass filler is used. If the bubbler is preferred, the use of the waste water to pre-cool the incoming water increases the capacity to 12 gallons an hour. A reserve of three quarts makes it unnecessary to waste water to get a drink of cold water. The top of the cabinet is white vitreous porcelain on cast iron. Insulation of the cooling unit consists of 3 inches of Kelvatex around sides and bottom, and 2 inches at top. Cold water lines are thoroughly insulated. All insulation is thoroughly hydrolened and sealed. The cooling has sleeve type direct cooling; the precooler is made of two special tinned copper coils, one within the other. The bubbler is of the angle stream type and the nozzle has an approved sanitary guard. There is an adjustable temperature control located in the condensing unit compartment for varying the temperature of the drinking water.

Kelvinator Corporation, Detroit, Mich.

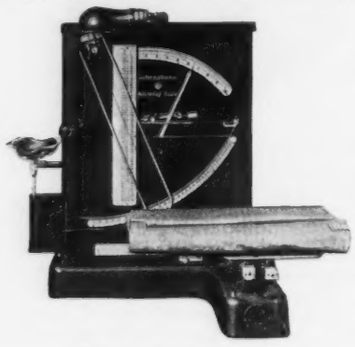
Yield Scale

The purpose of the yield scale is to compute the "yield"—yards-per-pound —of cotton, rayon, silk and other materials. When a bolt or roll of fabric

Yield scale

is placed on the platform, the weight of the piece, its length, in yards and fractions, is automatically indicated. Fabrics can be weighed and computed at the rate of 200 pieces per hour. The total capacity is 50 pounds. The scale is equipped with the Magniscope which magnifies the chart figures four times their actual size.

The accounting scale indicates in figures on a chart the yards per pound, weight per square yard, ounces per



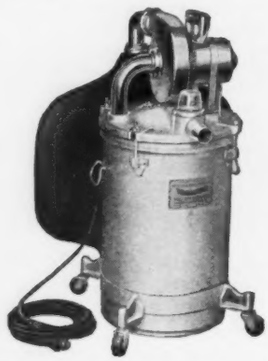
The accounting scale

yard or yards per pound are known. No ratio table is needed. The computation is automatically indicated on the counting chart. The counting operation can be further speeded by using unit-weight figures and properly setting the indicator on the unit-weight chart.

International Business Machines Corporation, 270 Broadway, New York City.

Vacuum Cleaner

An industrial vacuum cleaner is designed as a heavy duty machine of high power combined with light weight. It contains a 1 h.p. ball bearing General Electric motor, weighs 45 pounds and carries a complete set of standard



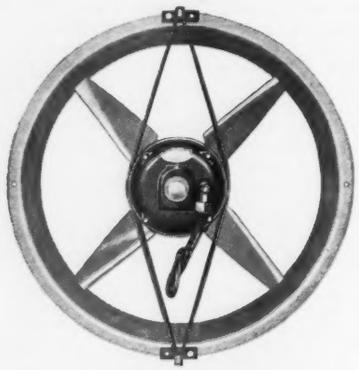
Industrial vacuum cleaner

attachments for textile plant cleaning purposes. An observation glass permits the operator to see dirt and dust being removed when cleaning. The motor unit may be removed for use as a blower. There are standard attachments for cleaning textile machinery, motors, overhead pipes, walls, floors, etc., with special tools for cleaning furnaces, boilers, ovens, flues, boiler tubes, etc.

The Breuer Electric Mfg. Co., 837 Blackhawk St., Chicago, Ill.

Ventilating Equipment

In an improved line of industrial ventilating equipment, there are two, four and six-blade fans for wall or duct mounting, in diameters from 16 to 36-inch; a line of portable floor level units in diameters from 20- to 30-inch; and a line of Mobile Aerospots in diameters from 20 to 36 inches inclusive. The fan blades are designed



Ventilating fan

to produce uniform air velocity across the entire working portion of the fan disc, and the intake rings are scientifically designed to prevent back flow and tip losses in the blades. The motor supports are designed to have a minimum of resistance to the air. All materials used in the fans are either

EAGLE Penetration Roll

Saves its cost on every 100,000 lbs. of yarn slashed

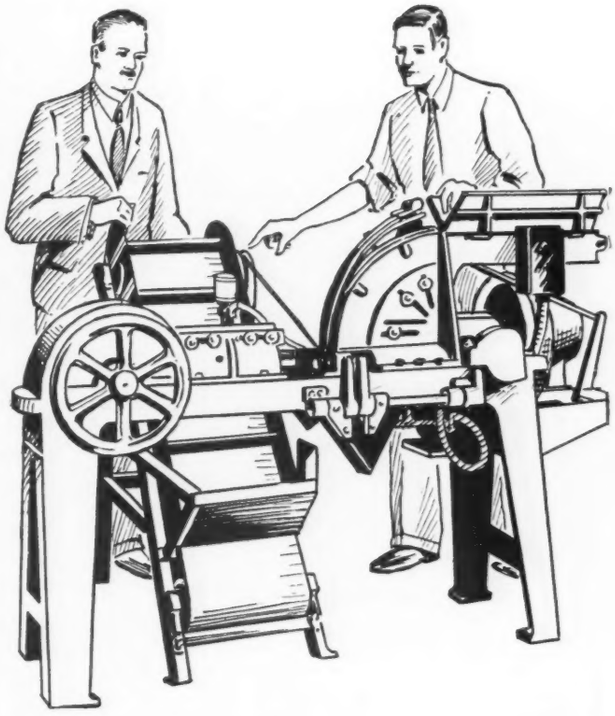
Takes the place of the usual plain immersion roll and fits into the regular immersion roll bearings of any type or model slasher size box.

The Eagle Penetration Roll has proved itself in many mills such as the Piedmont Mfg. Co., Springs Cotton Mills, Greenwood Cotton Mills, Monarch Mills, (Lockhart Plant) Riverside and Dan River Cotton Mills, Pacolet Mfg. Co., the Victor Monaghan Group of Mills, etc.

Its construction permits the size to boil all through the yarns and the specially designed curved blade causes the size to flow from the center of the roll outward which gives perfect, quick penetration. Hard size or lumps in sizing are eliminated. It permits an increase of slasher production without decrease of regain in the sized yarn. It permits either the use of lighter yarn or a reduction in the size consistency. The per penetration and retention of size carried through to the cloth room reduces warp breakage and insures better weaving.

The Eagle Penetration Roll will save its cost on every 100,000 pounds of warp slashed. Drop us a line today for full information and prices.

Eagle Iron Works
GREENVILLE...S. C.



Estimated Saving . 100%
Actual Saving . . . 200%

One of our salesmen reports a mill that recently traded its Double-end Utsman machine for the new Type K was able to eliminate two men on each shift.

In addition to this, the salesman was able to save them another man on each shift by suggesting a change in the location of the machine.

Thus, the saving of over 100%, originally contemplated, was increased to over 200% per year on the investment.

Type K has a speed of from 100 to 120 bobbins a minute. No mill can afford to be without it.

Write for Bulletins about

the new* TYPE K *Bobbin Stripper

The Terrell Machine Co., Inc.
1200 North Church Street
CHARLOTTE, NORTH CAROLINA

MR. LUTHER PILLING, Danielson, Connecticut, *Representative for N. Y., N. J., Pa., New England States, and Canada*

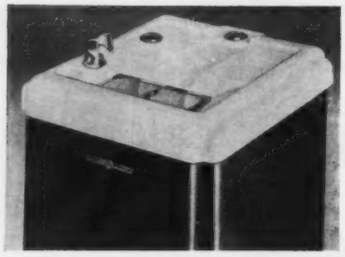
GEO. THOMAS & CO., LTD., *Manchester, England, European Agents*

rolled or forged material, the rings and motor supports being of rolled steel and the fan blades being high strength aluminum alloy drop forgings. Long hour, high efficiency motors for use on any electrical circuits are standard equipment.

Bendix Products Corporation, South Bend, Ind.

Small Water Coolers

Small, self-contained pressure water coolers with water-cooled condenser have been designed to meet light loads in industrial plants where lint in the air is a problem. The cooler has a storage of 2½ gallons of water in addition to its hourly capacity. It has



Small type water cooler

a clean-out connection that may be periodically sterilized, connection for remote bubbler, solid vitreous china top, foot pedal control, angle stream bubble with splash proof basin screen, recirculation of liquid refrigerant passing through the evaporator, silver filled refrigerant coils, two-cylinder compressor mounted on live rubber suspension in an all-steel cabinet. The RM-61 is equipped with the General Electric pre-cooling coil permitting an increase in efficiency of approximately 50 per cent.

General Electric Company, Specialty Appliance Department, Nela Park, Cleveland, Ohio.

Water Coolers

Single and double bubbler coolers for drinking water, completely sealed against dust, have been added to the KM line of industrial water coolers. This cooler, the result of many years of steel mill and industrial mill applications, is available for temperatures as low as 25 below zero up to 130 degrees F. The coolers are treated for rust and are of the storage tank type of high capacity, to take care of extremely large loads under any type of condition where drinking water is to be served.

General Electric Company, Specialty Appliance Department, Nela Park, Cleveland, Ohio.

Chromated Zinc Chloride

Chromated Zinc Chloride is a new improved zinc chloride for wood preservation. The producers point out that it is a proven preservative against decay, odorless, repellent to termites, permits satisfactory painting, is free from poisonous compounds, and imparts measurable fire retardance. It is applicable for use in most wood constructions in cotton mills. It has been subjected to exhaustive tests including accelerated service tests.

The Grasselli Chemical Company, Inc., Cleveland, Ohio.

Portable Belt Lacer

In a new portable belt lacer, the jaws contact the hooks only to provide, in lacing a belt, an even, firm pressure, with each hook being deeply imbedded even with the surface of the belt and

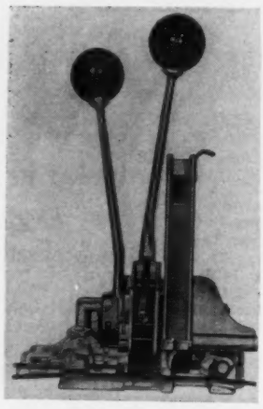
Portable belt lacer

identical pressure being applied to all hooks. The angle of the jaws is designed to give full vision to the operator while lacing. The machine laces up to six inches in one operation and the lacing may be started by using one handle only, leaving the other free to properly insert the belt and hold it in exact position.

Safety Belt Lacer Company, Toledo, Ohio.

New Box Strapping Tool

The Steelstrapper is a new, improved box strapping tool with automatic seal feed, to provide increased speed in box strapping with the convenience of a one-unit tool. The device tensions the



Box strapping tool

strap, applies the seal, seals the joint and cuts the strap from the coil. Operations are controlled from two ball-tipped levers. The left hand tensions the strap, and the sealing is done with one stroke of the right hand.

Acme Steel Company, 2840 Archer Avenue, Chicago, Ill.

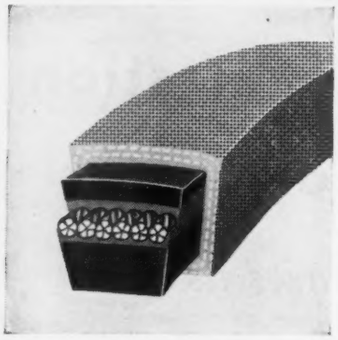
Bethanized Wire for Fence

Bethanized wire has been adopted for both fence fabric and barbed wire. It is stated this new wire has a protective zinc coating that is 99.997 per cent pure. The coating is applied to the steel base wire by means of a newly developed electrolytic process that deposits the zinc uniformly on all parts of the wire surface. In tests, No. 9 gauge wire has been wound around its own diameter and bent flat upon itself without cracking or otherwise injuring the coating, it is stated.

Anchor Post Fence Company, Eastern Ave. and Kane St., Baltimore, Md.

Rubber Products

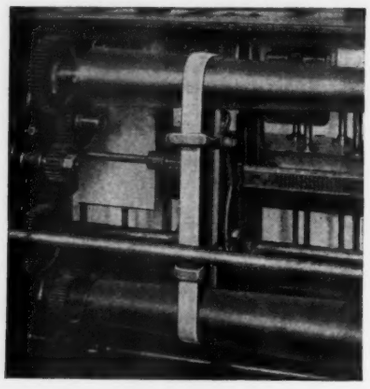
A whipcord v-belt was introduced embodying two layers of tie-gum which weld the cord section into a tension member of great strength and elasticity with minimum inelastic stretch.



Whipcord v-belt

Above and below this tension member are extensible and compression sections, the latter being designed to properly contact the sidewalls of the sheave groove. Around this body is wrapped a specially rubber-treated duck covering, closely woven but permitting easy flexing.

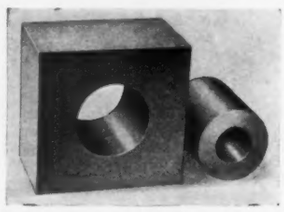
A new transmission belt features an endless wound whipcord construction



New cone belt

with no elastic stretch; designed for all types of endless drives. All whipcord is pre-stretched and pre-treated.

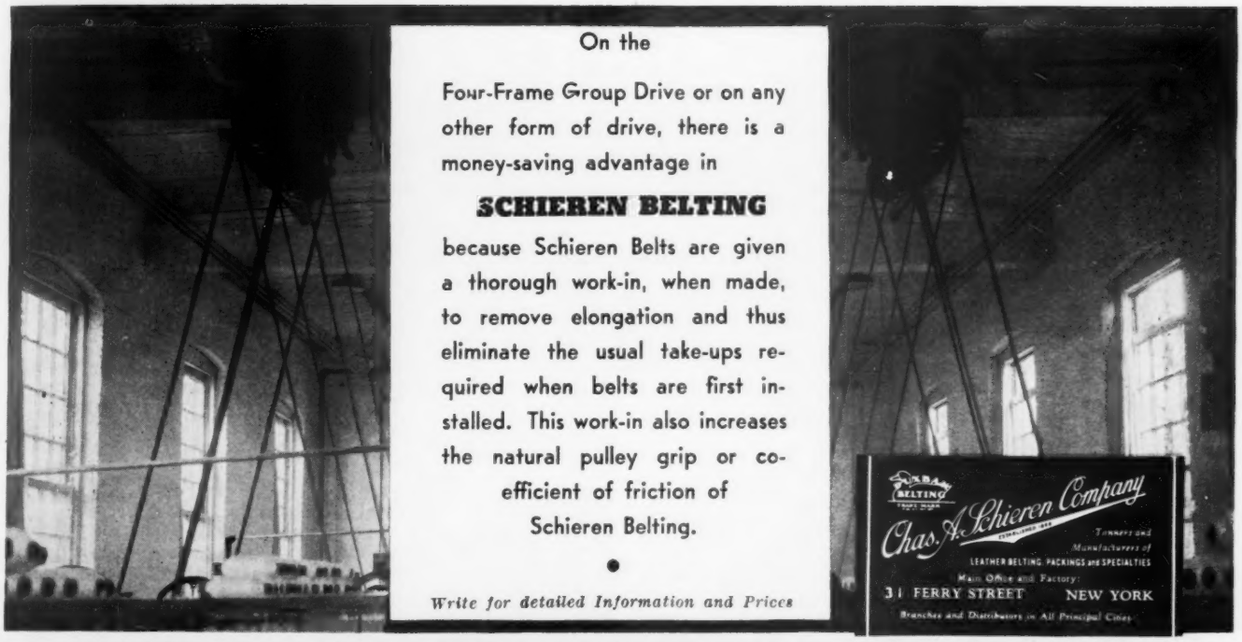
Oil-less bearings, called Parock, have been developed for use as dry, unlubricated bearings on slow speed, low-pres-



Parock for oil-less bearing

sure machines, or as bearings submerged in solutions non-injurious to rubber. Parock is a highly refined rubber-bonded graphite compound, which machines as easily as soft brass and can be furnished in finished or unfinished block form.

Parock is used for making practically unbreakable pot eyes. The material takes a high permanent polish, does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Four-Frame Group Drive or on any other form of drive, there is a money-saving advantage in
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because Schieren Belts are given a thorough work-in, when made, to remove elongation and thus eliminate the usual take-ups required when belts are first installed. This work-in also increases the natural pulley grip or co-efficient of friction of Schieren Belting.
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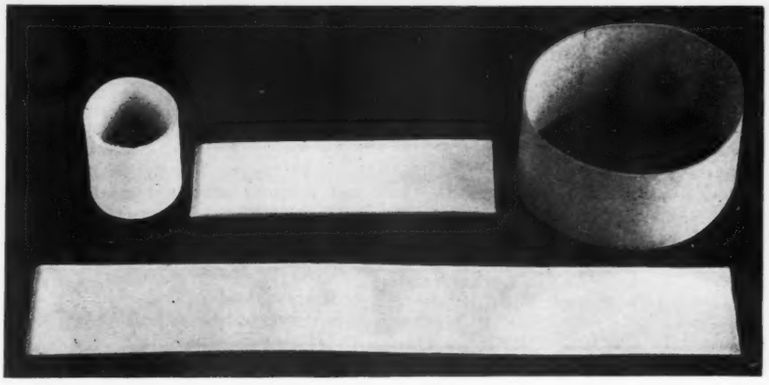


CLINTON STARCHES
FOR ALL TEXTILE PURPOSES
Manufactured by
CLINTON COMPANY
CLINTON, IOWA
QUALITY SERVICE

Parock pot-eye

not oxidize or deteriorate due to age, and is unaffected by dyeing and bleaching solutions.

A compensated air hose is designed to possess the advantages of both wrapped duck and braided hose with none of the weaknesses. The unequal ply stresses set up in the wall of the hose by longitudinal and lateral tension are compensated and made equal by the unique construction consisting of two strength members, a braided cord member for longitudinal stresses and a spiralled strength member for expansion and lateral stresses, both welded in rubber.

An improved type of fire hose is treated with radio-active salts of rare earth metals introduced into the fabric of the hose to make it mildew-proof, rot-proof, freeze-proof and moisture repellent.

Recent improvements provide rubber covered textile rolls that do not oxidize, surface-harden or change in density. The coverings are inseparably bonded to the metal cores by a special compound.

Rubber linings have been developed for corrosion-proof equipment on tanks, pipe and fittings. Acid-proof linings and coverings of rubber are inseparably united to the metal by a special process.

Manhattan Rubber Mfg. Division, Raybestos-Manhattan, Inc., Passaic, N J.

Material Handling Equipment

Among mechanical devices for handling materials in textile mills are a teerail and trolley combined with other units of the tramrail systems to handle materials by the overhead method. Loads up to three-ton capacity can be

For tramrail handling

handled. Safety features include sliding switches preventing trolleys coming off under any condition. The line includes all equipment required from the grab for the load to the correct combination of tramrail units to convey the load to any part of the mill.

The Osborn Manufacturing Co., Cleveland, Ohio.

Open Type Cloth Press

The No. 841 open end heavy duty press, designed for baling of cloth and bags, is available with either a solid base or a special base equipped with tracks of rail or channel type, permitting trucks loaded with the loose material to be run into the press through the ends. The material is then compressed and tied up while still on the trucks. In this press, maximum pressure is exerted at any point of the plunger travel, eliminating the use of false platens and blocking up for various sized bales. The press is equipped with heavy link pull chains on each of the four corners of the compression platen, to distribute the load evenly. The mechanism runs in oil and dust tight housings. The press is operated by push button control for start, stop and reverse, with automatic stops at both ends of the platen travel.

Cloth press

Economy Baler Company, Ann Arbor, Michigan.

Stainless Steel

Surveys of the corrosion conditions in textile mills looking to the application of the four accepted classes of stainless steel alloys, produce some interesting applications. The largest field for these is in dyeing and bleaching, where corrosion and metal contamination has always been an important factor. The chrome nickel and chrome-nickel-molybdenum alloys fulfill the corrosion and fabricating problems for dye tanks, jigs, machines and pipe lines. A number of equipment manufacturers are furnishing these alloys in their standard equipment for these purposes. The chrome-nickel-molybdenum referred to and designated as Enduro 18-8-SMO is a recent development in the textile industry and is being applied generally to wood dyeing equipment.

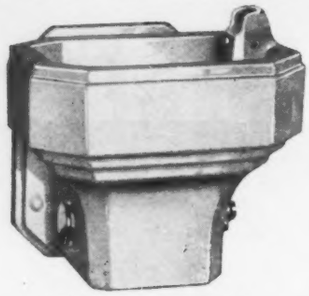
Stainless steel, it is pointed out, is entirely resistant to the concentrations of sulphuric, formic and acetic acids used in wool dyeing. In cotton dyeing, the metal is entirely resistant to the direct or salt colors, vats, indigos, sulphur or diazotised and developed colors. The sodium nitrite and acid solutions of the developed colors have no action on the metal. The hydrosulphite stripping bath does not discolor the metal. Bleaching baths, either peroxide, permanganate, sulphur dioxide or hypochlorites do not react with the metal either direct or as a catalyst. It is further explained that the smooth metal surface and absence of chemical reaction produces a clean surface after dyeing, bleaching or stripping operations, permitting one machine to be used economically for a number of operations in the dyehouse.

The stainless alloys are being used widely on slasher equipment, dry cans, and in humidifying and conditioning cabinets for rayon.

Republic Steel Corporation, Massilon, Ohio.

Drinking Fountains

New, modernistic design is used in a new line of drinking fountains which has the nozzle and guard raised above the rim of the bowl to prevent nozzle contamination in the event the drain or waste line becomes clogged and the



Modernized fountain

waste water backed up into the bowl; as some would overflow over the rim of the bowl without coming in contact with the supply of fresh water issuing from the nozzle orifice. These fountains or bowls are constructed entirely of impervious material. The angle of stream is so directed as to prevent water falling back onto the point of discharge. The nozzle is protected with nonoxidizing guards to prevent the mouth or nose of the drinker coming in contact with the nozzle. The bowl is constructed free of corners. The water supply is controlled by Rasco patented ball bearing self-closing valves with metal 4-arm or lever handle stop filled with volume control, permitting regulation of flow of water.

Rundle-Spence Manufacturing Co., Milwaukee, Wis.

Electrical-Resistance Thermometers for Air-Conditioning

A three-lead null-type resistance thermometer is developed to regulate an air-conditioning system for constancy of atmosphere. It is independent of distance and disregards all temperatures except those right at the detector location. The detectors (electrical resistance thermometer bulbs called Thermohms) can be placed anywhere in rooms, air ducts or water lines and connected by simple electrical wiring to instruments at a central location.

Leeds and Northrup Company, 4901 Stenton Avenue, Philadelphia, Pa.

CERTIFIED RATINGS

GUARANTEED

Guarantee: Propellair Fans have Certified Ratings and are guaranteed to move a greater volume of air per minute than any other airplane-propeller type fans with equal diameter and power requirements.

TO MOVE MORE AIR AT LOWER COST

This sweeping guarantee assures a degree of economy made even greater by the low original cost and very low depreciation of PROPELLAIR FANS. For a degree of satisfaction which we honestly believe is unsurpassed by any other fan—specify stream-lined PROPELLAIR FANS for all ventilating and exhausting requirements.

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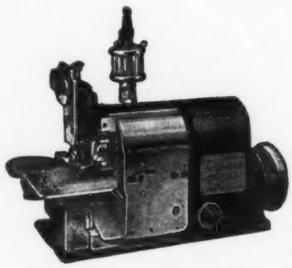

HIGH SPEED TRIMMING AND OVERSEAMING OVEREDGING AND SHELL STITCH MACHINES

FOR USE IN THE FABRICATION OF KNITTED AND WOVEN GOODS OF ALL KINDS.

—200 VARIETIES FOR 200 PURPOSES—

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PRODUCING A FLAT BUTTED SEAM (AS ILLUSTRATED BELOW) TO FACILITATE SUBSEQUENT PROCESSING OF TEXTILES

FINISHERS REPORT DEFINITE SAVINGS BOTH IN LABOR AND FABRIC. LET US DEMONSTRATE WORK OF THESE MACHINES ON YOUR OWN PRODUCT.

THE MERROW MACHINE COMPANY

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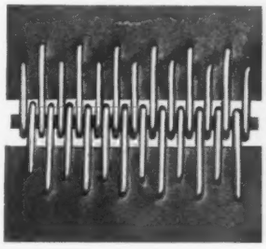
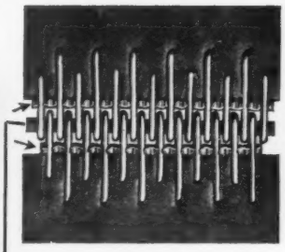
How to Reduce Belt Shut-Down Costs!

Discard This way of Lacing





Adopt This SAFETY WAY

Arrows point to Steel Binder Bars. Safety Belt Hooks are assembled on these bars—hence no waste. Every strip of hooks is a unit. Safety Hooks preserve and lengthen life of expensive belts—decrease shut-downs for relacing. The whole story is contained in

"ASKS ALL — TELLS ALL"

Illustrated in large pictures that make everything clear. Asks and answers all questions. Write for your copy today.

Safety REG. U.S. PAT. OFF.

BELT LACER CO., FACTORIES BLDG., TOLEDO, OHIO

Safety Belt Hooks are now Packed as illustrated.

Another added feature for your convenience.

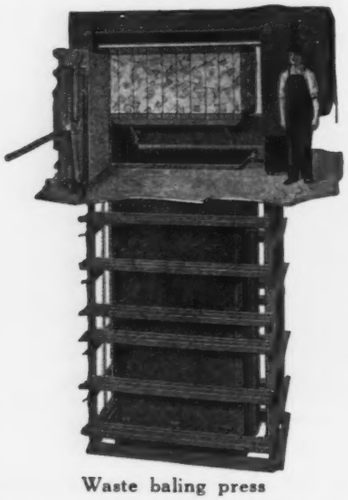
Prevents possible interlocking of unused hooks.

ASK YOUR JOBBER FOR DEMONSTRATION OF THE TIME AND BELT SAVING SAFETY HOOKS, OR

WRITE TO US FOR SAMPLE LACING

Upstroke Press

The No. 127 upstroke baling press is designed for baling cotton waste and all classes of baleable material; it is designed to operate from one floor level, but is applicable to two-floor operation. When installed in a one-story waste house, the waste is fed into the chamber below the floor by push paddle or conveyor, eliminating the necessity of lifting the waste up over the top of the chamber, requiring only one man for the baling. In a two-story waste house, the top of the press can be opened, permitting the waste to be fed into the top of the press from the floor above by push paddle or conveyor. The finished bale is delivered on the first floor. The press is built standard with 10 feet of chamber below the first floor and the doors form a 5-foot chamber above. It is equipped with push button control for start, stop and reverse; automatic stops at both ends of the plunger travel; automatic overload relays, etc.



Waste baling press

Economy Baler Company, Ann Arbor, Michigan.

Spray Painting Equipment

A complete outfit suitable for spray painting in textile mills sprays at a rate of 500 square feet and upward an hour. A 5-gallon tank provides for long periods of uninterrupted operation. The machine operates from an ordinary light socket, has an electric cord,

Spraying equipment

and air and fluid hose sufficient for a working radius of 55 feet from the electric socket to the spray gun. A ¾-hp. motor is included.

A high-speed, large capacity one-man outfit for heavy painting operations, operates at a speed of 1,000 square feet and upward an hour. The pressure feed tank has a 5-gallon capacity, and the equipment has a working radius of 75 feet. A 2-hp. electric motor driven compressing unit is used.

Either outfit is available with gasoline engine driven compressing equipment instead of electric motor.

The DeVilbiss Company, Toledo, Ohio.

Truck Caster

A new medium duty truck caster is equipped with thread guards at the hub of the wheel to prevent lint and ravelings from getting into the shaft.

Medium weight caster

A double ball-bearing swivel is accurately proportioned to provide free swivelling action. The wheels have a thick smooth tread, slightly crowned, heavily webbed and accurately bored. All wheels are provided with Alemite push type pressure lubrication.

Divine Brothers Company, Inc., Utica, N. Y.

Frequency and Load Measurements and Control

A proportional step frequency controller is applicable to plants generating their own electric power or purchasing it. This control is designed to maintain constant speed on the prime movers in the power house with resultant constant frequency supply for all drives. Mills with synchronous motor-driven equipment especially require constant frequency. In mills which purchase their power, the peak demand determines the power cost. Load control equipment is available to integrate demand so as to operate close to the penalizing peak without exceeding it. Load indicating or recording equipment is a part of the control and shows the results obtained.

Leeds & Northrup Company, 4901 Stenton Avenue, Philadelphia, Pa.

Special Lubriplate for Textiles

A special series of Lubriplate (Series 500) has been developed for textile mill use which is white in color and does not stain fabrics. This product is a special lubricant made by patented formula, its principal function being based upon its ability to react with metal to form a load carrying film on contacting surfaces of working parts. This film is formed by the product's colloidal zinc ingredient, by absorption and imparts a hard dead smooth bearing surface on shafts, journals and gear teeth, it is explained.

Fiske Brothers Refining Co. (Lubriplate Division), 24 State St., New York City.

Strapping Reel and Stand

In a new strapping reel and stand, a new patented coil control holds the strapping tight on the reel and releases it as needed. The new unit is furnished in three combinations. The reel is of all steel and tube construction built for the heaviest continuous shipping room service.

Signode Steel Strapping Co., Chicago, Ill.

Exhaust Fans

The new "Macheta" Airfoil line of exhaust fans has been developed in a wide variety of ratings through various combinations of blade numbers, pitch ratios, and speeds. These fans

New exhaust fan

are applicable to ventilation, heat and vapor removal, space and man cooling, drying, etc. Fundamental aero-dynamic principles are utilized to produce economies in operation cost with high mechanical efficiency and low horse power requirements.

Aerovent Fan Company, Piqua, Ohio.

Roof Insulation

Insulating material added to the roof deck retards the transmission of heat, maintains relative humidity within the building, and prevents condensation. An asphalted-board for roof insulation has been developed with greater strength making for greater ease in handling.

The Insulite Company, Minneapolis, Minn.

Aluminum Paint

A new aluminum paint, called "Permite", is made in two types: Non-corrosive, for general inside and outside use, and heat-resisting, for safe use on surfaces with temperatures up to 1000° F. This paint is ready mixed, and, it is pointed out, never hardens or darkens in the can, and its exclusive synthetic vehicle and finely powdered pigment are said to greatly prolong its life. Aluminum paint finds many uses in mills, being extensively used on metal tanks, fences, fire escapes, pipe lines, radiators, machinery and other metal work. In many plants it is used for painting the upper walls and ceiling. Its high reflective power increases light and improves working conditions, and its hard surface is easy to clean. it is pointed out.

Aluminum Industries, Inc., Cincinnati, Ohio.

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This page and the page immediately following present an important service used every month by hundreds of COTTON readers. The listings explain themselves. The Manuals, Reference Books and Catalogs, containing information of unusual value in mill construction and operation, will be sent you without obligation. Read through the list carefully. Then simply fill in on the post card the numbers of those which interest you, and mail the card to COTTON.

This service is for men engaged in textile manufacturing only. Requests received from those not in the industry cannot be handled.

Advertisers in this Issue Offer You . . . . . .

11. Whitinsville Rings—16 page illustrated booklet, describing ring manufacture, measurements, types, uses. How to determine flange sizes. By Whitinsville Spinning Ring Co., Whitinsville, Mass.

23. Practice of Rayon Sizing in American Mills, Raygomm, Lakeo Gum—Three booklets on products for sizing and finishing rayon and other textiles, presented by Stein, Hall & Co., Inc., 285 Madison Ave., New York, N. Y.

23. "Lupoqum" and "Monopole Oil"—Two booklets on textile sizing and finishing products. Jacques Wolf & Company, Passaic, N. J.

28. Akron Belting—Practical rules and general information for users of belting with belting catalog. By Akron Belting Co., Akron, Ohio.

29. Continuous Card Stripper—A 20 page booklet describing in detail continuous card strippers, their advantages, the power required to operate, etc. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

30. Lubrication of Textile Machinery—32 pages, illustrated. Data covering the economical lubrication of all textile machines. New York & New Jersey Lubricant Co., 292 Madison Ave., New York, N. Y.

38. Sleaziness in Full Fashioned Knittings—Illustrated survey with samples of fabric showing causes of sleaziness and methods to be employed in eliminating it.—By Textile Machine Works, Reading, Pa. (This company also issues parts catalog for Reading full fashioned machines with general information on subject of full fashioned knitting.)

—35. Interpretation of Analysis for the Layman—An eight page booklet explaining what the various items used in fatty oil and sulfonated oil analysis mean, enabling the ordinary textile man without chemical education to interpret the various chemical analyses. National Oil Products Co., Harrison, N. J.

62. Rubber Products for the Textile Industry—A 40 page booklet giving a wealth of information on the proper selection, installation and operation of rubber belts, together with charts, showing horsepower rating, pulley sizes, V-belt sizes, also information on all types of hose and rubber covered rolls used in the textile industry. Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc., Passaic, N. J.

64. Efficiency and Performance of SKF Roller Bearing Spindles—A twelve page booklet showing the advantages in power consumption, increased production, savings in lubrication, increased yarn breakage strength to be secured through roller bearing spindles. SKF Industries, Inc., Front St. and Erie Ave., Philadelphia, Pa.

65. Why Cooper Hewitt Light is Better Than Daylight—A 16 page booklet explaining in detail the importance of good lighting and the necessity of proper quality as well as proper quantity of light. General Elec. Vapor Lamp Co., Hoboken, N. J.

66. Dronsfield's Patent Portable Auto-Feed Needle Point Grinder No. 176—describing a new departure in card grinding—John Hetherington & Sons, Inc., 250 Devonshire St., Boston, Mass.

68. Monel Metal Equipment for the Textile Industry—A 50 page buyers' guide and catalog with more than 100 illustrations of various items of monel metal dyehouse equipment. International Nickel Company, Inc., 67 Wall St., New York, N. Y.

70. Fafnir Ball Bearings for One Process Pickers—outlining the advantages of ball bearings in guaranteeing smooth, accurate motion, particularly on eveners, as well as uninterrupted production, ease of operation and cleanliness of bearing units throughout the one-process pickers. Fafnir Bearing Company, New Britain, Conn.

72. The Merrow Butted Seam—A 16-page booklet defining and illustrating the Butted seam, describing its properties and outlining some of the advantages to be gained by its use in textile fabrics. The Merrow Machine Co., Hartford, Conn.

77. Bulletin S 200—Illustrating and describing the new Reeves Variable Speed Drive for spinning and twister frames, explaining its many distinct advantages, and giving charted results of exacting tests. Reeves Pulley Company, Columbus, Indiana.

—88. Dayton Cog Belt Catalog—A 32 page booklet full of vital information on power drives, plainly and simply assembled and arranged so that anyone can select the proper standard drive for any condition. It also provides data for the calculation of drives where acquired. The Dayton Rubber Mfg. Co., Dept. C-11, Dayton, Ohio.

92. Silicates of Soda—A review of the properties of silicates of soda and their various uses. Philadelphia Quartz Co., 121 S. Third St., Philadelphia, Pa.

93—Metso—Describing this industrial cleanser which has wide use in industrial cleaning of metals, floors, etc., and is used in kier boiling, silk and rayon degumming. Philadelphia Quartz Co., 121 S. Third St., Philadelphia, Pa.

94. New Development by Onyx.—Eight page booklet describing and giving uses of new developments in sulphonated aliphatic compounds . . . called Aliphatic Ester Sulphate and Glyceryl Sulphates. Onyx Oil & Chemical Co., 15 Exchange Place, Jersey City, N. J.

95. Onyx Processing and Finishing Compound Catalog—A thirty-two page booklet listing and describing entire line of processing and finishing compounds, covering every process on all types of fabric. Onyx Oil & Chemical Co., 15 Exchange Place, Jersey City, N. J.

102. White and Light Shade Cotton Fabrics Dyeing and Finishing. National Oil Products Co., Harrison, N. J.

103. Throwing Rayon Crepe. National Oil Products Co., Harrison, N. J.

104. Warp Sizing. National Oil Products Co., Harrison, N. J.

105. Mildew Prevention. National Oil Products Co., Harrison, N. J.

106. Cotton System Warp Sizing on Multiple Cylinder Machines—a folder showing the advantages of this type of machine in making warps of acetate and other synthetic yarns and spun silk.—Charles B. Johnson, Paterson, N. J.

107. Complete Information on Alemite Lubrication. Showing how costs can be reduced through proper lubrication. Alemite Corp., 1828 Diversey Blvd., Chicago, Ill.

109. Some properties of Starch and Dextrine—Explaining certain fundamental properties of starch and its derivatives and their action when heated and agitated. Stein, Hall & Co., Inc., 285 Madison Ave., New York City, N. Y.

110. 3-In-One Oil for Industrial Uses—showing the many industrial uses and advantages of this oil. Three-In-One Oil Co., 70 Varick St., New York, N. Y.

115. How to Cut Cloth Room Costs with Automatic Picking Machines and Improved Inspecting Machines—Hermas Machine Company, Warburton Ave., Hawthorne, N. J.

116. Arcy—Telling in an interesting way the story of Arcy, which completely liquefies ordinary thick boiling pearl starch, and its many advantages. Drake Corporation, Norfolk, Va.

117. Anti-Friction Bearings as Applied to Spinning, Drawing and Twisting Frames—This bulletin shows with detailed drawings how a simplified design of roller bearing applications is made to replace the plain babbitt bearings and lists the advantages that are gained. It deals primarily with better continuous production and in consequence freedom from equipment care and repairs. Hyatt Roller Bearing Co., P. O. Box 476, Newark, N. J.

119. The World's Finest Sewing Machines—a condensed catalog giving details of the various Willcox & Gibbs sewing machines. Willcox & Gibbs Sewing Machine Co., 658 Broadway, New York, N. Y.

120. Goodyear Mechanical Rubber Goods Catalog—40 page catalog giving practical information and tables helpful in the selection of the proper belting, hose or packing to suit the requirements of the mill. Goodyear Tire & Rubber Co., Akron, Ohio.

121. Engineered Packages for the Textile, Dry-Goods and Apparel Industries—Showing the savings to be made through the use of properly engineered packages of corrugated fibre in the shipping of yarn, woven and knitted products. Hinde & Dauch Paper Co., Sandusky, Ohio.

122. Water Filters and Filtration Equipment—Containing complete description of the chemical processes involved in the coagulation and precipitation of foreign matter, the removal of iron, oil, manganese from water and the production of clean water suitable for the textile industry, together with tables of specifications for standard filters, and information showing the extra profits to be made by the mill through reduction in costs and process difficulties, through removal of undesirable impurities in water. Permutit Company, 330 W. 42nd Street, New York, N. Y.

124. New Condensed Catalog on Ball Bearings and Power Transmission Units—Combines all of the information and the industrial uses of radial ball bearings as well as the Fafnir power transmission line of wide inner ring and ball bearings. It gives complete information, interchangeability tables, dimensions, prices, etc., Fafnir Bearing Company, New Britain, Conn.

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128. Houghton's Hand Book for the Hosiery Dyer—This book contains the result of 60 years of experience in research and development of processing materials for the textile industries, together with a wealth of other data useful to every hosiery dyer. E. F. Houghton & Co., 240 West Somerset St., Philadelphia, Pa.

130. Three New Textile Scouring Agents—This 32-page book gives many valuable formulas for the use of Houghton's Wonder Powder—a new type of colloidal detergent—in fulling, scouring and finishing nearly all types of woven and knit goods. Also contains several pages of valuable reference and conversion tables. E. F. Houghton & Co., 240 W. Somerset St., Philadelphia, Pa.

131. Houghton's Leathers for the Textile Industry—This valuable handbook contains 88 pages of data on the proper selection and application of all types of textile leathers, including belting, special spindle belts, round leather belts, loom leathers, mill strapping, leather aprons, etc.—E. F. Houghton & Co., 240 W. Somerset St., Philadelphia, Pa.

132. Houghton on Sizing Products—Thirty-two pages of valuable information on sizing of cotton warps and yarns. Gives detailed information on how to conduct sizing tests and contains tables for recording results. It describes the requirements of different types of yarns and gives actual formulas for producing desired finish. E. F. Houghton & Co., 240 W. Somerset St., Philadelphia, Pa.

134. STA-PUT Lubricants—A brief description of an entirely new type of tough film lubricants which not only gives greater protection to bearings but eliminates oil drip and reduces lubrication costs. STA-PUT Lubricants are made in grades to suit all types of textile machinery. E. F. Houghton & Co., 240 W. Somerset St., Philadelphia, Pa.

135. The Pick Method of Weaver Wage Payment—A manual of practical information describing methods to be followed in using Pick Counters; suggested forms, and tables included. Durant Manufacturing Co., 1932 No. Buffum St., Milwaukee, Wis.

139. Textile Detergents—Theory of the use of alkalis and control of pH.—This 32 page booklet explains in simplified manner for the benefit of the layman the chemical processes that take place in using textile detergents in the finishing of textile goods. It contains many useful tables and data. Detergent Products Corp., Peachtree Bldg., Atlanta, Ga.

140. Textile Machinery—Improvements in Design and Methods of Lubrication. A discussion of the problem of lubrication of textile equipment covering operating conditions and factors affecting and affected by lubrication. Card Room Operations, Twisting and Spinning Machines, Silk Throwing, Looms, Knitting Machines, etc., covered. Available in copy of June 1934 issue of "Lubrication." The Texas Company, 135 E. 42nd St., New York City.

141. V-Belt Engineering Data Book—Over 50 pages of pertinent engineering information including data on selecting a V-Belt drive design of special V-Belt drives, numerous standard tables, charts and belt and sheave list prices. Manhattan Rubber Manufacturing Div. of Raybestos-Manhattan, Inc., Passaic, N. J.

142. Winders and Winding—Describing the various processes in the preparation of cotton, woolen and silk yarn and illustrating and describing the different types of Universal winders and the various attachments to suit the particular winding requirements of the various branches of the textile industry. Universal Winding Co., 95 South St., Boston, Mass.

147. Let's "CAN" The Oil Can—describing permanently sealed bearings for life, and for higher speeds and temperatures single seal ball bearings which have to be lubricated only from one to three years. New Departure Mfg. Co., Bristol, Conn.

148. Leather Packing—.28 page booklet giving timely hints on the proper selection and installation of leather packings, the various types available, sizes and prices. Alexander Brothers, Inc., 406 N. Third St., Philadelphia, Pa.

150. Engineering Data Book on Mechanical Rubber Goods—31 pages of useful information and engineering data, designed to simplify the selection of belting, hose and other mechanical rubber goods for industrial service, including a review of belting requisites for a wide variety of uses as well as helpful tips on installation procedure. B. F. Goodrich Co., Mechanical Division, Akron, Ohio.

152—Plant Checkup List—Crane Co., 836 South Michigan Ave., Chicago, Ill.

153—Descriptive Folder of the New Low Cost Herman Shear—Herman Machine Co., Warburton Ave., Hawthorne, N. J.

154—Johnson Bronze Bulletin No. 340—showing over 600 sizes Johnson general purpose bronze bushings. Johnson Bronze Co., New Castle, Pa.

155. Link-Belt Catalog 1274 on the P.I.V. Gear—giving details of this positive variable speed control. Link-Belt Co., 910 South Michigan Ave., Chicago, Ill.

156—Link-Belt Engineering Data Book No. 125—showing features and giving engineering data on Link-Belt silent chain drives. Link-Belt Co., 910 South Michigan Ave., Chicago, Ill.

157. Grading Rules and Complete Specifications for Laying and Finishing Maple Floors—Maple Flooring Manufacturers Association, 1791 McCormick Bldg., Chicago, Ill.

159. Corrugated Boxes and How to Use Them—a reference book for use in the selection and packing of corrugated fibre shipping boxes. Hinde & Dauch Paper Co., 454 Decatur St., Sandusky, Ohio.

161. Fence—How to Choose It—How to Use It—book explains in detail how to chose a fence, determine values and prevent costly mistakes. Cyclone Fence Co., Dept. 4311, Waukegan, Ill.

163. Roto-Koner—Bulletin describing the new No. 44 Universal Winder, known as the Roto-Koner for winding knitting yarns, which has many new and distinctive features. Universal Winding Company, 95 South St., Boston, Mass.

164. Johnson Rotary Pressure Joints—Bulletin describing this rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instructions, types, sizes, dimensions and prices. The Johnson Corp., Three Rivers, Mich.

165. New Departure Speed Power Unit—Bulletin giving details of this compact, self-contained driver that gives a thousand different speeds at a turn of the wrist. New Departure Manufacturing Company, Bristol, Conn.

166. Better Cones The World Over—Bulletin describing the Universal No. 50 Winder for silk and rayon. Universal Winding Company, 95 South Street, Boston, Massachusetts.

168—The Tube-Tex for Tubular Knit Goods—Bulletin describing this modern machine which extracts, processes, dries, conditions and folds in one continuous operation, lowering costs, saving labor, power, space and waste. H. W. Butterworth & Sons Co., York and Cedar Sts., Philadelphia, Pa.

169. Tube-Tex High Speed Steamer and Finisher—Describing these new steaming and finishing machines for tubular knitted fabrics, which handle cotton, rayon, woolens and mixtures at speeds up to 45 yds. per minute, being unique in that patterns, designs and stripes are finished straight and free from any distortions. H. W. Butterworth & Sons Co., York and Cedar Sts., Philadelphia, Pa.

170. Gates Textile Accessories—showing the increased efficiency and economy to be secured through the use of Gates cone belts, evener belts, card bands and loom binder cushions. The Gates Rubber Company, Denver, Colorado.

171. Design of V-Belt Drives—48 page booklet full of valuable tables and data showing the type, number and design of V-Belts that will give the greatest efficiency on each particular drive. The Gates Rubber Company, Denver, Colorado.

173. Over the Rough Spots—28 page booklet describing Stonhard resurfacer for repairing and resurfacing concrete, wood, brick and composition floor, making permanent repairs to badly work surfaces. Stonhard Company, 401 North Broad St., Philadelphia, Pa.

174. Robertson Chain Link Fencing—giving details and specifications of Robertson chain link fencing, providing efficient and low cost protection for mill property. W. P. Robertson Steel & Iron Co., Elm & Second Sts., Cincinnati, Ohio.

176 Sonoco Products—A 60 page illustrated booklet giving descriptions, specifications and charts of the many Sonoco products, including: bobbins, cones, tubes, cork cots, roving cans, spools, rolls, etc. Sonoco Products Co., Hartsville, S. C.

177. New Advances in Loom Equipment—12-page booklet describing discoveries and advances which loom manufacturers have made in keeping pace with these discoveries down to the present time—non-technical, informative, amply illustrated. Emmons Loom Harness Co., Lawrence, Mass.

179. Improved Airplane Propeller Exhaust Fans and Ventilating Equipment—a 40-page catalog showing the important factors to be considered in a propeller type fan to secure the greatest efficiency, with data and tables showing fan capacity and details of each type and size of fan and views of typical installations. Propellair, Inc., Springfield, Ohio.

180. These Extra Cushion Cork Cots Offer Six New Advantages—a 6-page folder which tells the story of the new Armstrong's Extra Cushion Seamless Cork Cot from the viewpoint of the mill man. The folder describes HOW the new cot is of advantage to mills spinning cotton yarn; WHY it is better, and something about its method of manufacture, and also gives PROOF in the form of some tests that have been made with this new roll covering material. Armstrong Cork Products Co., Textile Division, 930 Arch St., Lancaster, Pa.

181. Eagle Penetration Roll—Illustrated pamphlet showing the advantages of the new Eagle Penetration Roll, made to fit in any type or model slasher size box, with complete description and suggestions for installation. Eagle Iron Works, Greenville, S. C.

182. M. & M. Hooks and Levers—Illustrated pamphlet descriptive of the M. & M. Hook and Lever, the latest improvement in weight levers. Illustrations show the construction of the lever and the importance of proper weighting of the top roll is stressed. M. & M. Textile Lever Co., P. O. Box 1552, Greenville, S. C.

183. Schieren-izing—describing leather belt manufacture from the selection of hides through the various processes to the final tests, also showing illustrations of belts with unusually long service lives. Chas. A. Schieren Co., 31 Ferry St., New York, N. Y.

184. Speed Control Handbook T-35—new reference book on variable speed control, said to be the most complete and helpful book on this subject ever published, 112 pages and more than 200 illustrations of interest to every production executive, purchasing agent, superintendent, overseer and master mechanic. Reeves Pulley Co., Columbus, Ind.

185. Duiux—The White Finish that Stays White—New book describing the new ten-point finish for factory walls and ceilings, the finish that stays whiter, stays cleaner and stands repeated washings. E. I. duPont de Nemours & Co., Finishes Division, Wilmington, Del.

186. F-7 Feeder Bulletin—Describing the better blending that is secured and the important cleaning operation that is added by using F-7 feeders in place of bale breakers. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

187. The Wildman Single Head Full-Fashioned Hosiery Machine—Literature on request from the Wildman Mfg. Co., Full Fashioned Division, Norristown, Pa.

188. Form 374—This form enables you to gather your own cost data on your sewing machines and determine whether new Union Special Machines will show big savings. Furnished free by Union Special Machine Co., 400 No. Franklin St., Chicago, Ill.

189. Walker Steel Products—Eight page illustrated catalog descriptive of the Walker method of quickly, checking the efficiency of machinery. The improved one-unit switch case and pedestal for above or below floor installation, is discussed in a practical manner. Walker Electrical Co., 526 Means St., N.W., Atlanta, Ga.

COTTON, Atlanta, Ga. October, 1935

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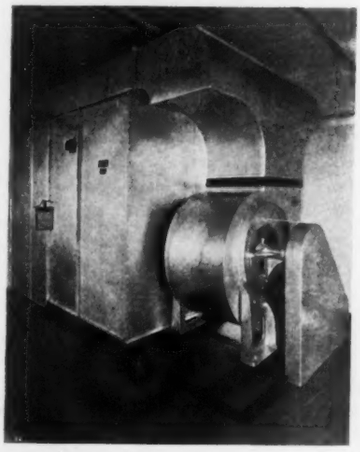
New Conditioners

The Series B of the Sirocco Conditioner are applicable to heating and humidification as well as cooling and dehumidification. The equipment is arranged and licensed for use with an auditorium by-pass, for giving accurate and sensitive control, both when

The Series B conditioning unit

heating and when cooling. The casing of the unit is non-metallic, for heat insulation and sound absorption. The capacity range is from 1700 to 10,000 c.f.m., with normal cooling capacities from 5 to 30 tons. The series is made for both floor and ceiling mountings.

The Series K Conditioner is especially applicable to central systems involving extensive duct systems and capacity requirements up to 10,000 c.f.m., also equipped and licensed for use un-



The Series K for large systems

der auditorium conditioning corporation patents. The design of the Series K conditioner permits the use of cooling and dehumidifying coils for cold water, brine, or direct expanded refrigerants in any amount or arrangement, and permits the use of either hot water or steam for heating.

American Blower Corporation, 6000 Russell St., Detroit, Mich.

Monel Metal Developments

Welded Monel metal pails, available in 12 quart, 14 quart and 16 quart sizes, with and without chime, are fabricated of 20-gauge Monel metal sheet, using seam welded construction. The ears and chime are of heavy 14-gauge Monel metal, permanently attached by welding. The bail is of $\frac{5}{16}$-inch diameter solid Monel metal. These are for use in dyehouses, bleacheries and finishing plants, etc.

Monel metal perforated spindles for package dyeing have been developed, providing the strength and toughness and resistance to corrosion of the metal. They are being used on every type of package dyeing, for yarns, roving, tinting, etc.

The International Nickel Company, Inc., 67 Wall St., New York City.

Improved Welder

A new welder featuring unity factor motor drive has a unique arrangement of generator windings utilizing a separate auxiliary differential field structure for producing improvement in welding performance. They provide both 25- and 40-volt operation by a simple adjustment of the controls, permitting the use of the new improved high speed coated rods as well as standard uncoated rod, and also copper arc and carbon electrode work on the same machine.

An automatic brake holds the welder from rolling when the pulling handle is lifted.

The Ideal Electric & Manufacturing Co., Mansfield, Ohio.

Cutting Tool for Straps

A tool for cutting and removing Signode-sealed straps and other tensional strapping is of specially treated steel. The cutting edge of the tool can be reversed, doubling the life of the tool. The arms and handles are of strong alloy steel of the right length to withstand all strap cutting pressures and cut through straps up to $\frac{3}{4}$-inch wide by .035-inch thick.

Signode Steel Strapping Co., Chicago, Ill.

Lift Truck and Platform

A hand-lift truck has been developed specifically for average loads between 300 and 1000 pounds. It handles a 36 x 42-inch skid platform. To elevate the load, the operator grasps the handle, depresses the treadle and leans back. His weight by this leverage action lifts the load. The handle remains in position to pull the load away. To lower, the operator pulls down on the handle, depresses the treadle, and lets the weight of his body act as a counterweight. The descent of the load is always under control.

The "featherweight" skid platforms

Lift truck and platform

are designed for 1000-pound capacity. The legs are welded to the deck angles to assure rigidity. Eight bolts in every foot of platform length are used to provide a tie-in between lumber and deck angles and reduce warping of deck boards. There are practically no metal or projections to rust, stain and damage the load.

The Yale & Towne Mfg. Co., Philadelphia, Pa.

Dye Vat Thermometer

A dye vat thermometer has been developed of all Monel metal except the glass tube and the handle which is chromium-plated heavy gauge copper.

Dye vat thermometer

The case is 12½ inches long (16½ inches overall); heavy, rolled edge flanges are used to make the case rigid and protect the glass tube, and metal guards front and back protect the bulb. The glass tube is replacable in case of breakage.

Taylor Instrument Companies, Rochester, N. Y.

Hard Chromium

A recently installed plant is equipped for hard chromium plating of textile equipment, parts, etc. This treatment, it is pointed out, produces a highly finished surface nearly diamond-hard, and resistant to the action of dyestuffs, etc.

Columbus Truck & Supply Mfg. Co., Columbus, Ga.

Floor Resurfacers

To eliminate ruts and holes in floors and platforms, a heavy-duty resurfacer was developed. This is applicable to concrete, wood, wood blocks, brick and asphalt floors and other types of surfaces subjected to trucks. A concrete surface treatment is designed to re-

Resurfacers to prevent this

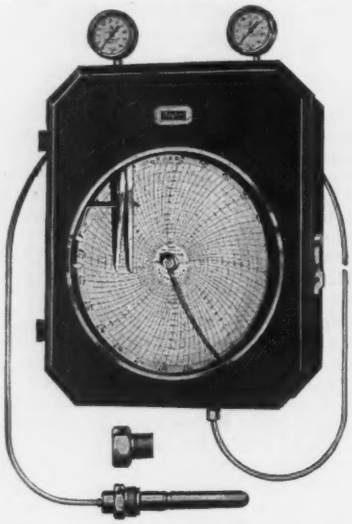
tard disintegration of concrete floors; the treatment is flushed down the concrete, penetrating the surface pores to a depth of ⅛-inch, to increase the resistance to abrasion and eliminate "concrete dust". A similar preservative for wood floors—a combination of oil

gums and resins—is designed to restore to wood its life, toughness and resilience. Roof maintenance is provided for by a liquid roof resurfacer and plastic roof re-surfacer which are ready for application without heating.

Stonhard Company, 401 North Broad St., Philadelphia, Pa.

Recording Temperature Controllers

The new "Fulscope" recording temperature controller is directly applicable for desizing, drying, calenders, mercerizers, dye baths, wool driers and carbonizers, etc. The use of the universal sensitivity adjuster provides throttling or on-and-off control regardless of the time lag. The adjustment



Recording temperature control

is made by turning a graduated dial with a screwdriver. Reduction gearing permits the control point to be changed in large or small increments. Controller action is readily convertible from direct to reverse action or vice versa without addition or subtraction of parts; the controllers are readily adaptable to applications requiring a different temperature range by simply substituting a pre-calibrated tube system and chart with the required range. A temperature instrument may be readily converted into a pressure instrument. Lightweight duralumin mechanism, practically frictionless bearings, etc., are included in the design. Besides providing accurate process control, the instrument also keeps a record of the processing.

Taylor Instrument Companies, Rochester, N. Y.

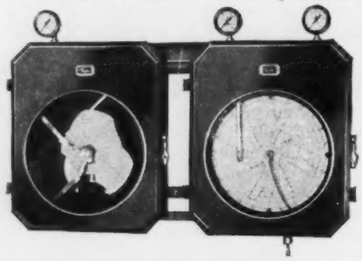
Bearing Material

A porous bronze material developed for automotive use to take care of neglect of infrequent oilings—to serve as an oil-less bearing during the intervals between oilings, has been applied to textile equipment. Bearings of this material, it is stated, require oiling approximately every 3 to 4 months on high speed work and only once a year or so on slower motions. One application has been on spindle bolsters, on which, it is stated, oiling is required on the lowest estimate once in every 3,000 operating hours.

The Moraine Products Company, Dayton, Ohio.

Time-Schedule Controllers

A time schedule controller, for dye baths, size cooking, kier liquors, etc., automatically controls temperature or pressure, or both, according to a predetermined schedule. The processing



Time schedule controller

temperature can be increased at any desired gradual or rapid rate, held constant for fixed periods, and decreased gradually, rapidly or in steps.

Taylor Instrument Companies, Rochester, N. Y.

Airplane Propeller Exhaust Fan

A rounded or curved entrance is the latest improvement in a line of airplane propeller fans. The curved entrance in conjunction with the airplane propeller blades is designed to enable

Airplane propeller exhaust fan

the full length of the blades to be effective without restricting the area of the fan outlet, and with the least possible resistance to flow of air. The motor base supports are streamlined and cast integral, with hollow bolt for mounting motor supports to ring, allowing through bolts to be used for mounting fan in place. 120 degree suspension points equalize the stress; fan ring, supports and propeller are made of special aluminum alloy, rustproof and in most cases acid resistant.

Propellair, Inc., Springfield, Ohio.

New Lubricants

The Spinesso line of spindle oils—three products covering all spindle oil applications—has been developed to meet the need for an oil of the proper viscosity, low consumption and minimum tendency to thicken or gum. It has controlled evaporation characteristics and uniform high flash points.

Three grades of Andok lubricant are designed for anti-friction bearing applications, being straw colored adhesive, and possessing a high melting point, and handling easily in pressure guns or pressure systems.

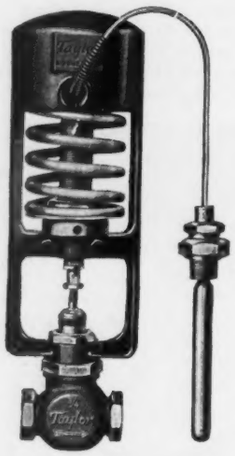
A new fluid grease, Epic lubricant, in a series of four fluid greases, is for comb boxes, top rolls, detaching rolls and cam tables. It is light amber in color, and resists being thrown from moving parts with little tendency to creep, splash, climb or drip. For use on cams, open gears and chains, Jacquard head plungers, loom motions and spinning frame draft gearing, a soft, smooth tan-colored grease, Penola cam lubricant 0½, is produced.

Solvent extraction refining processes have been utilized in producing the Teresso line of industrial lubricating oils which, it is pointed out, are noted for their temperature-viscosity characteristics, resistance to oxidation and sludging, high flash points, excellent color and low carbon content—for especial application in oil-tight bearings.

Standard Oil Company of New Jersey, 26 Broadway, N. Y. City.

Self-Acting Temperature Controllers

A self-acting temperature controller for kiers, soapers, humidifier tanks, etc., includes a practically friction-free action for assuring quick response to temperature changes. Damage from



Self-acting temperature control

overheating is prevented by a liberal safety factor. A small temperature-sensitive bulb is used to permit wide range of application. The control-point adjustment is mounted on ball bearings. Double-seated, quick opening valves are standard.

Taylor Instrument Companies, Rochester, N. Y.

Freight Elevator Control

An improved constant pressure push-button control for freight elevators is designed to provide efficient service without the necessity of an operator on the car. The car is called to any landing by pressure on a landing floor button, the car stopping automatically when it reaches that point. The doors may then be opened and after being closed the car is operated from the platform by constant pressure of an up or down button. The car cannot be operated unless all hoistway doors are closed and locked, and no door can be opened until the car is at that landing. The car stops immediately upon releasing pressure on the button and is stopped automatically at the terminal landing. Lights in the push-buttons at the floors indicate whether or not the car is in use.

Otis Elevator Company, 260 11th Ave., New York City.

SLASHING
WEAVEWELL
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Buyers Are Becoming More Particular!

Buyers of textile products no longer accept just "good" product—they want something "better than the average." Competition is too keen to overlook one of the most vital things necessary to more saleable products—proper slashing and finishing.

NORTH Service has assisted many mills in producing products that are "better than the average"—products that particular buyers demand.

Practical mill men thoroughly investigate your particular methods and systems of sizing; laboratory tests made of your raw cotton, sized and unsized warp yarn and cloth, giving moisture content, dry size and other conditions made necessary in order to comply with present-day strict specifications for all textile fabrics. Suggestions will then be made to enable you to better your products and beat competition.

Full details of NORTH Service and NORTH Products will be sent gladly on request.

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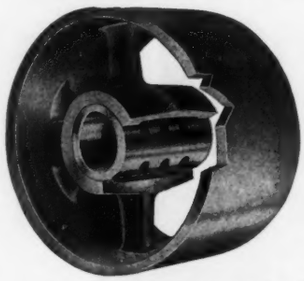
MOCCASIN BUSHINGS



STANDARD EQUIPMENT IN MANY TEXTILE MACHINES

Builders of world-known textile machinery have standardized on them for over 15 years.

We have made broad claims for the mechanical perfection of Moccasin Bushings and have yet to report our first failure.

They require the oiler's attention but a few times a year. They insure every drop of oil reaching the desired spot—the bearing. Nothing but clean oil can reach the bearing surfaces.

And finally—

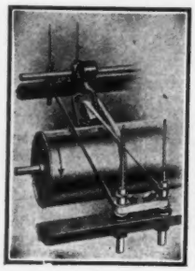
Moccasin Bushings are *guaranteed* to give the fullest satisfaction in your most *troublesome bearings.*

We have an interesting booklet that gives sound reasons for standardizing on Moccasin Bushings.

MOCCASIN BUSHING COMPANY, Chattanooga, Tenn.

Makers of Brass and Bronze Castings of Every Description

"Send it to Gastonia!"



for ECONOMICAL REPAIR SERVICE

If you wish to save on the cost of new parts, and time and delay in shipment, have your equipment repaired or rebuilt in an up-to-date equipped plant by experienced textile experts—just "Send it to Gastonia."

SPINNING CYLINDERS

We are fully equipped to make new spinning cylinders or repair your old ones, making them as good as new, at a great saving to you.

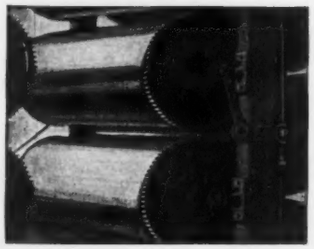
CARD SCREENS

The rebuilding of card screens is one of our specialties. We have a complete stock of parts for all makes of card screens, as well as picker screens.

DRYING CANS

Just send your cans to Gastonia and you will receive them back in perfect condition quicker and at a saving.

You take no chances on Gastonia Service. Every job is guaranteed and quick service is assured. Write for full information today.



GASTONIA TEXTILE SHEET METAL WORKS INC.

222 E. LONG STREET

GASTONIA, N. C.

CONVEYOR SYSTEMS — GENERAL SHEET METAL WORK

PROPER WEIGHTING OF TOP ROLLS MEANS

— *1. Saving of Top Roll Covering.*
2. Stronger and more uniform yarn.
3. Less end breakage—Less waste.
4. Increased Production.

We also manufacture One-Piece Saddles. Price 3 cents each. Send for samples.

M & M HOOKS and LEVERS

on your spinning frames insure levers being kept in a horizontal position and the maintenance of proper weighting at all times. M&M levers have much larger bearing surfaces, reducing wear to the minimum and eliminating the necessity of adjustment. Made of best grade cast iron and last indefinitely. Their construction, at a point where stirrup rests, is such that the stirrup is prevented from being forced forward against the steel roll, thereby eliminating undue wear of stirrup.

Let M&M Hooks and Levers solve your lever problem for all time. A few frames equipped with them will convince you. Write today for samples, stating kind of frames you use.

M & M TEXTILE LEVER CO.

P. O. BOX 1572 GREENVILLE, S. C.

Developments in Welding

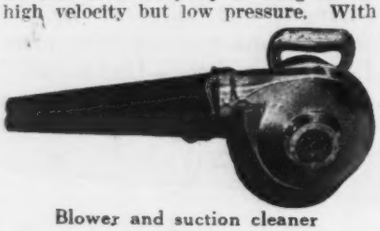
Among recent developments in welding is equipment for use on direct current power lines, another for alternating current lines which convert two-phase and three-phase alternating current into the single-phase alternating current of lower voltage and higher frequency necessary for arc welding, a 100-ampere motor generator type of arc welder for use on light materials, which may be used on any power line including 110 volt circuit, and which supplies a uniform current and delivers 20 to 125 amperes at the arc without the use of auxiliary devices, and electrodes for general purpose welding high tensile steel, and a shielded arc electrode for building up steel surfaces to resist shock and abrasion, and one for building up straight carbon steel. low alloy or high manganese steel surfaces to resist abrasion. Another new electrode makes it possible to arc-weld cast-iron, and another is for re-facing tool steel.

Motor-driven welder

The Lincoln Electric Co., 12818 Coit Road, Cleveland, Ohio.

Electric Blower and Suction Cleaner

An electric blower and suction cleaner, portable and weighing only seven pounds, has been developed as a means of cleaning motors and other delicate machinery by blowing air at high velocity but low pressure. With attachments, it may be readily converted into an insecticide blower, paint sprayer or blow torch outfit. The blower is equipped with a powerful motor and ball bearings throughout. It is available in four models. Among the textile uses are: drying textile samples, cleaning stock bins, machinery, switchboard panels, etc.



Blower and suction cleaner

Skilsaw, Incorporated, 3312 Elston Avenue, Chicago, Ill.

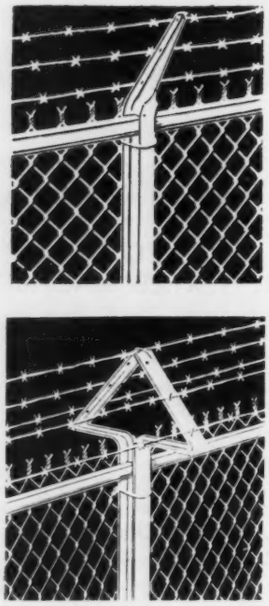
Belt Conveyors

In a new conveyor the drive mechanism and motor are entirely within the width of the frame of the conveyer and suspended underneath, near the starting end, out of the way of workers but accessible for maintenance. Belt take-ups are not required. All moving parts are mounted on anti-friction ball bearings. Small end pulleys permit close connection with production machines, work tables, other conveyers or fixtures.

Mathews Conveyer Company, Ellwood City, Pa.

Beam Construction in Fence

New developments in chain link fences include the application of the heavier and stronger type of beam frame work, which has been adopted as standard on fence posts, top rail and end, corner and gate posts. This open section "Beam" frame work, it is stated, obviates the need for bolts, bands, tension bars, etc., and prevents the internal accumulation of moisture which frequently causes rust.



Beam line post and top rail on, above, three-strand fence, and, below, on five-strand fence . .

These fences are of copper-bearing steel and are hot-dip galvanized after fabrication to assure maximum rust resistance.

The Stewart Iron Works, Cincinnati, Ohio.

Nickel-Clad Steel

Nickel-Clad Steel is a bi-metal, consisting of a layer of flange quality steel and a layer of non-rustable, corrosion-resistant nickel, inseparably bonded by hot rolling. It is being regularly used in large dye tanks, peroxide bleaching tanks and kiers, hot water storage tanks, boiling kettles for sizing compounds, slasher drums, etc.

The International Nickel Company, 67 Wall Street, New York City, and Lukens Steel Company, Coatesville, Pa.

Hydraulic Lubrication

Hydraulic fittings for Alemite lubrication have been developed, similar in design to the conventional push-type fittings, except they are designed with a ball-shaped tip. With an adapter they may be substituted for oil holes without re-drilling or tapping.

Hydraulic grease guns are designed to employ a unique nozzle which incorporates three jaws acting as a clutch to grasp the lubricating fitting firmly upon contact, preventing the gun from slipping off and permitting the operator to exert greater pressures. The hydraulic guns are designed to deliver a measured quantity of lubricant per stroke. A table giving the volume of lubricant attained by various numbers of strokes is prominently etched into the gun cylinder.

In the "barrel to bearing" method of lubrication, a filler tank is filled with 20 pounds of grease from a barrel pump attachment on an original lubricant container. The tank is then carried readily to supply the hand guns. The guns are re-filled by removing the plug from its handle, placing the open spout over the filler tank nozzle, turning the crank once, so that the grease is ready to enter the housing free of dirt or abrasive material.

For lubrication with power, a new high pressure barrel pump is designed to convert any 100-pound lubricant container into an efficient air-operated powergun; handling regular or fibrous and heavy greases at a fast, even rate of flow. The pressures developed will take care of several outlets at one time. The barrel pump may be a stationary unit or made portable on a three- or four-wheeled truck.

High pressure barrel pump

A further development of the hydraulic system is the use of fittings mounted in multiple on a header block providing centralized lubrication. Slender pipes carry the grease from the grouped fittings to the individual bearings.

Stewart-Warner Corporation, Alemite Division, 1826 Diversey Parkway, Chicago, Ill.

New Drills

Two small drills and three large heavy duty models have been added to a line of ball bearing electric drills. The $\frac{3}{16}$-inch and $\frac{1}{4}$-inch types are designed for tasks requiring fast drilling of holes up to $\frac{1}{4}$-inch diameter. The large models cover $\frac{5}{8}$-inch, $\frac{3}{4}$-inch and $\frac{7}{8}$-inch. The handle has been centered below the body of the tool to provide convenience and freedom from

1885 1935

For Fifty Years

AKRON LEATHER BELTING

has been successfully used in the textile industry

THE AKRON BELTING CO., ... AKRON, OHIO

Greenville, S. C. Charlotte, N. C. Memphis, Tenn.

This is the Age OF SPEED and HIGH DRAFT SPINNING

Ring Travelers of greater endurance are necessary. Wentworth Double Duty, Wentworth Gravity, Gravity Express and Lowboy meet these new requirements.

New Duplex Twister Travelers — C. E. F. Twister Travelers

NATIONAL RING TRAVELER CO. PROV. R.I. U.S.A.

NATIONAL RING TRAVELER CO.

PROVIDENCE, R. I. - CHARLOTTE, N. C.

Southern Office: — 131 West First St., — Charlotte, N. C. — C. D. Taylor, Southern Agent

Southern Representatives; L. Everett Taylor, H. B. Askew, P. O. Box 272, Atlanta, Ga.—Otto V. Pratt, Gaffney, S. C.

SEYDEL-WOOLLEY CO.

SIZING FINISHING

WARP SIZING SPECIALISTS

SEYCO SCIENTIFICALLY PREPARED TEXTILE CHEMICALS SEYCO

A CONCERN IS KNOWN BY THE CUSTOMERS IT KEEPS—

FINISHING SIZING

ATLANTA, GA.

HIGHFLEX JR. RUBBER BELTS...

developed especially for textile drives—maintain exact tension, reduce slippage, maintain higher and uniform speeds, and increase production. The B. F. Goodrich Co., Mechanical Rubber Goods Div., Akron, Ohio.

Goodrich HIGHFLEX JR. *Belting*

Experimental Engineering

Metal Stampings———Commercial Press Work.
Special and standard small parts made to specifications.

Dies, tools, models, special screws, cams, studs and brackets.

BOYCE WEAVERS KNOTTERS

Mill Devices Company, Inc.

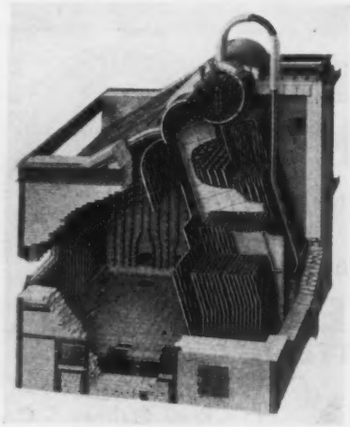
Gastonia, North Carolina

strain for the operator, and is closer to the chuck to permit better pressure with less effort. Ball bearings are used on armature, intermediate gear and spindle. Housings are of die-cast aluminum alloy.

Skilsaw, Inc., 3312 Elston Ave., Chicago, Ill.

Integral Furnace Boiler

A new boiler unit is designed to provide a completely co-ordinated unit comprising a two-drum boiler, a water-cooled furnace, burners for liquid, gaseous or pulverized solid fuels, and, when needed, a superheater, economizer, and an air heater. It is pointed out that little head room is required, with no basement being necessary; low draft loss often permits use of natural



Integral furnace boiler

draft in existing stacks; the boiler or boilers and auxiliary equipment can be placed in a wide variety of arrangements; the unit is supplied to use pulverized coal, oil or gas or any combination of these, and may be converted from one to the other without any changes to boiler or furnace. It provides a complete unit with boiler, furnace, fuel burning equipment, superheater, and air heater all designed and assembled to make a well balanced unit. It has several features previously available only in large units: water-cooled furnace, with water-cooled floor; slag screen; and provision for large, well-placed, and self-draining superheater.

The Babcock & Wilcox Company, 85 Liberty St., New York City.

All-Purpose Dolly

An all purpose dolly is equipped with four two-wheeled all steel ball bearing casters. The wheels of each caster are mounted on a pivoted axle and ride over uneven floor surfaces with less tilting of loads. Two pressure grease-gun fittings carry lubricant to all bearings.

Mathews Conveyer Company, Ellwood City, Pa.

Metal Partition

A new metal partition with temperature- and sound-proof qualities retains the original metal partition features of ease in taking down and re-erecting, and interchangeability of sections. It is built primarily of two sheets of steel, each insulated separately with a dead air space between to give an overall thickness of face to face of wall or panel of 3 inches. It is flush, except the base and cornice which extend less than ½-inch beyond the face and are readily removable for interior wiring. The partition is available in solid panels of steel or with double glazed glass panels.

The Mills Company, Inc., Cleveland, Ohio.

Standard for Fence

A scientific and engineering standard by which to judge fencing has been projected. The symbol "Cyclone 12m" has been established as a guarantee that the chain-link fence fabric bearing it will withstand a minimum of 12 one-minute immersions by the Preece test of ASTM for testing the uniformity of coating on zinc-coated articles, through dipping in copper sulphate solution.

Cyclone Fence Company, Waukegan, Ill.

New Combustion Control

A new air-operated combustion control has been developed to automatically operate boilers to maintain steam pressure, furnace draft and maximum combustion economy. It simplifies central station economy methods for the smaller boiler plants. The demand for steam is measured by variations in steam pressure and the rate of combustion is varied accordingly by the simultaneous control of fuel and air.

A new steam flow—air flow boiler meter has been designed for industrial service to secure higher boiler room economy. This meter records steam flow from the boiler, air flow supplied for combustion and flue gas temperature, all on one 12-inch diameter uniformly graduated chart. It also indicates steam flow on a porcelain enameled scale and integrates the total steam flow on a 6-digit counter which reads like an automobile mileage register. The meter is equipped with the new direct reading escapement type integrator, and accurate, sensitive air flow mechanism, a sturdy, dust- and moisture-proof pressed steel casing suitable for flush front or surface mounting, and a simplified, powerful stream flow mechanism with interchangeable head chambers.

An adjustable orifice which automatically shifts its position in accordance with major changes in rate of flow is another development; when installed in a pipe line and connected to a standard recording and integrating fluid meter, it greatly widens the flow range which may be accurately covered by the meter.

To guard against explosive mixtures of fuel and air when lighting off pulverized coal, gas or oil fired boilers, a control trip which withholds fuel feed until the boiler is thoroughly purged is developed. The mechanism consists essentially of two oil-sealed bells suspended from a beam to measure air flow through the boiler. A draft connection from the right-hand bell to the boiler furnace, and a similar connection from the left-hand bell to the last pass provides for the use of draft loss through the boiler as a measurement of air flow.

A new combination meter indicates and records both boiler water level and feed-water flow. It consists of a standard Bailey fluid meter which indicates, records and integrates feed water flow, and a 12-inch boiler water level indicator.

Bailey Meter Company, 1050 Ivanhoe Road, Cleveland, Ohio.

New Instruments

A new meter body for electric flow meters is designed for measuring the flow of any liquid, vapor or gas creating a differential pressure across an orifice of 1.6 to 16 inches of mercury.

The use of mercury switches to eliminate open make-and-break contacts controlled by the pen arm is a revolutionary feature of a new automatic control thermometer. Every six seconds a motor-driven control table determines the location of the pen on the chart in reference to the control setting, and tilts the mercury switch from one side to the other if the temperature has changed.

A new and improved line of 8- and 12-inch circular chart instruments includes thermometers in indicating and recording types for temperatures from minus 40 degrees F. up to 1200 degrees F., and indicating or recording pressure and vacuum gauges for ranges from 10 inches of water up to 5,000 pounds. The Helix mechanisms are greatly improved. An electric clock eliminating daily hand-winding is standard.

The Brown Instrument Company, Philadelphia, Pa.

Colloidal Lubricants

Electric furnace colloidal graphite particles, as contained in a new line of lubricants, will, it is explained, attach themselves to the metal by absorption or pressure, forming a graphoid or frictionless surface, often called a "breath-like film" only one molecule in thickness. These frictionless surfaces, it is explained, permit the oil to spread more quickly than a plain metal surface. Colloidal graphite, due to its chemical inertness, will withstand extremely high temperatures, it is stated, and as graphite also has high pressure sustaining qualities, the graphite film will not break should the lubricant supply be temporarily cut off or a heavy overload be momentarily added.

Grafo Lubricants Corp., Sharon, Pa.

Conveyor-Elevator

A tubular elevator is used for conveyong coal in power plants, one use being the conveying of coal to a bin over a pulverizer. Arrangement is available by which the conveyor elevator not only handles coal to the live storage bunker, but also conveys to dead storage and reclaims back to the live storage bins when required.

Stephens-Adamson Manufacturing Co., Aurora, Ill.

Rust Paint

A new product for coating rusted surfaces may be applied directly over the surfaces without first removing the rust. This product, Rust-Tox, it is explained, expels the moisture, virtually taking into suspension the dried out rust and utilizing it as a protective pigment.

The Skybryte Company, Cleveland, Ohio.

Additional Personals and Obituary Items

JOSEPH LINDSAY, JR., has accepted the position of professor of textile chemistry and dyeing at Clemson Textile School. He is a graduate of Erskine College and has taken graduate work in chemistry at the University of North Carolina and the University of Chicago, as well as special work in textile chemistry at the Philadelphia Textile School. He has been with the General Dyestuff Corporation for the past nine years.

BRATTON WILLIAMS, a graduate of Clemson in 1925, has been added to the teaching staff of the school, to devote most of his time to the weaving and designing department. Since graduation, Mr. Williams has been teaching textiles in the high school, evening classes, and continuation classes in Textiles at Calhoun Falls, S. C. He has had about five years of practical experience in manufacturing.

WALTER M. BRICE, JR., has been appointed superintendent of the Spartanburg plant of Draper Corporation which has been started in the former plant of Standard Looms, Inc., to manufacture loom parts.

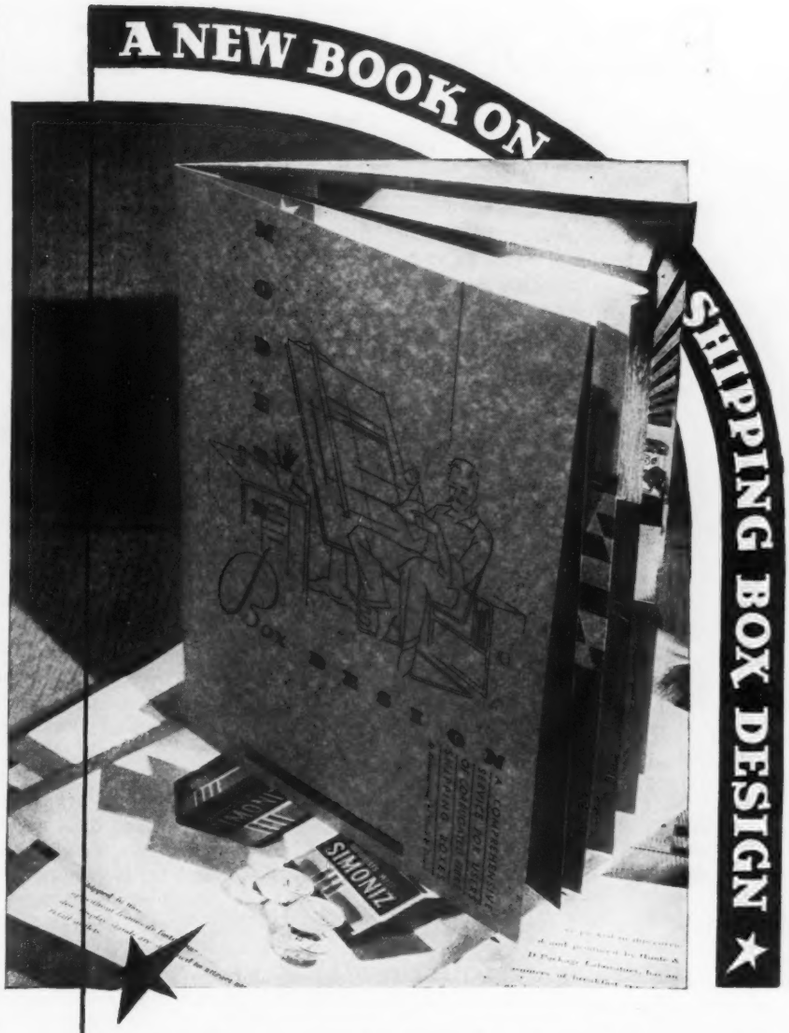
Obituary

HARVEY ENLOE, superintendent of the W. A. Handley Manufacturing Company, Roanoke, Ala., passed away on Monday, September 2, following an illness. He was the father of PAGE ENLOE, of the same company.

V. W. LOVILL, who until several months ago, has been superintendent of the Merrimack Manufacturing Company, Huntsville, Ala., and more recently a member of the southern sales force of the Clinton Company, passed away following a heart attack in Griffin, Ga., on August 19.

JOHN A. LYTER, 27, advertising manager for The R. & H. Chemicals Department of the E. I. du Pont de Nemours & Co., Wilmington, Del., was drowned while swimming near Wilmington, on August 2. Mr. Lyter was graduated from Lehigh University in 1929, and was immediately employed by the Roessler & Hasslacher Chemical Company as chemist. When this company became affiliated with the du Pont company in 1933 Mr. Lyter was promoted to the position of advertising manager, which position he held at the time of his death. He is survived by his parents, two sisters and a brother.

J. J. CHAMBLEE, representative of the Republic Rubber Company, Youngstown, Ohio, with headquarters in Birmingham, passed away suddenly several weeks ago following a heart attack. He is survived by Mrs. Chamblee, two daughters and a son.



If you hate to wade through a lot of uninteresting data you'll appreciate this new Shipping Box Design Book. Being loose-leaf, it contains only such information as applies to your business and is assembled especially for you after we receive your inquiry. It graphically illustrates how a shipping box, in addition to carrying products safely to their destination, can speed distribution, advertise products at point of sale, stimulate sales and create consumer acceptance. The coupon below will bring you a copy.

Send FOR YOUR COPY NOW !

THE HINDE & DAUCH PAPER CO.
454 Decatur Street, Sandusky, Ohio
Send me your book "Modern Box Design"
Name _____
Company _____
Address _____
City _____ State _____

PERSONAL NOTES
about Men You Know

J. WALTER RIMMER, who is in charge of the new office opened in the Johnston Building, Charlotte, N. C., by H & B American Machine Company, has been associated with the company for 26 years and is widely known among the northern and southern mills. He was educated in the technical schools of England, and served his apprenticeship with Brooks & Doxey, Ltd., of Manchester. He later was associated with Eckersley's, Ltd., Wigan, Lancashire, as technical adviser, and later came to the United States, with H & B American Machine Company.

Mr. Rimmer

DOUGLAS F. WILLIAMSON, formerly of the Linen Thread Company, Blue Mountain, Ala., has been made superintendent of the Allred plant of the Granite Falls Manufacturing Company, Granite Falls, N. C., where he has been associated for several months.

G. R. HOOPER has been made superintendent of the American Cotton Mills, Inc., Bessemer City, N. C.

T. H. BARRETT is superintendent of the Cotton Mill Products Company at Mobile, Ala. M. T. MASSINGILL is overseer of carding, W. T. COWART is overseer of spinning, and E. L. BAUCOM is overseer of weaving.

C. W. WILBANKS has resigned as overseer of carding, spinning, spooling, warping and slashing at the Henrietta Mills, Henrietta, N. C., to become overseer of spinning, spooling and warping a tthe Eureka plant. Springs Cotton Mills, Chester, S. C. J. O. CAMPBELL has been promoted from night overseer to day overseer of spinning at Henrietta; W. R. MORROW from night overseer of carding to day overseer; and AMOS MONRAY was promoted from overhauler to night overseer of spinning.

M. E. HEARD, who has been in the textile engineering department at Texas Technological College for seven years, has been promoted to acting head of the department upon the recent resignation of CARL D. BRANDT. R. F. REDDING, who has been connected with the Aiken Mills, Langley, S. C., has taken the position of assistant professor of textile engineering and will teach weaving and designing. Both Mr. Heard and Mr. Redding attended the textile school at the Georgia School of Technology.

Mr. Heard

THOMAS H. NELSON has been added to the staff of the Clemson Textile School, Clemson College, S. C. He is a graduate of the textile school of N. C. State College where he later completed his work for his master's degree in 1929. He has had considerable experience in practical textile work; for the past two and a half years he has been with the Riverside & Dan River Cotton Mills, Danville, Va., as assistant foreman of warp preparation and more recently in the designing department.

CHARLES B. NICHOLS, of Otis Company, Ware, Mass., has been made treasurer of the Appleton Mills, Anderson, S. C., succeeding the late D. D. LITTLE.

L. L. BAMBERGER has become purchasing agent at the Lanett Bleachery and Dye Works, Lanett, Ala., succeeding J. E. FARRELL, who has returned to New England. Mr. Bamberger has been connected with the Eagle & Phenix Mills, Columbus, Ga., recently, and previously was with the United States Finishing Company.

C. K. DOBBS has become overseer of weaving at Chadwick-Hoskins Mfg. Co., Mill No. 1, Charlotte, N. C.

WILLIAM W. CONARD has been appointed southern representative for the L. H. Gilmer Company, with headquarters at 95 Pine St., N. E., Atlanta, Ga. Mr. Conard has been connected with one of the large eastern mill supply houses handling power transmission and conveyor equipment, and has been with Gilmer for about a year. He will represent them calling on plants and distributors in connection with Gilmer belts and belting.

Mr. Conard

TOM R. SMITH has accepted a position in charge of the new yarn dyeing plant at the Wiscassett Mills Company, Albemarle, N. C.

PENRHYN WILSON is in charge of the new southern office opened by The R. K. Laros Silk Company, of Bethlehem, Pa., in the Johnston Building, Charlotte, N. C. Mr. Wilson has represented this concern, commission throwsters for the hosiery trade, in the South for a number of years.

W. C. HENDERSON has been appointed southern representative in the states of Virginia, North Carolina and South Carolina, for Boger and Crawford, mercerized yarn manufacturers. He is making his headquarters at the company's spinning mill at Lincolnton, N. C.

(Additional Personals and Obituary Items on page 127)

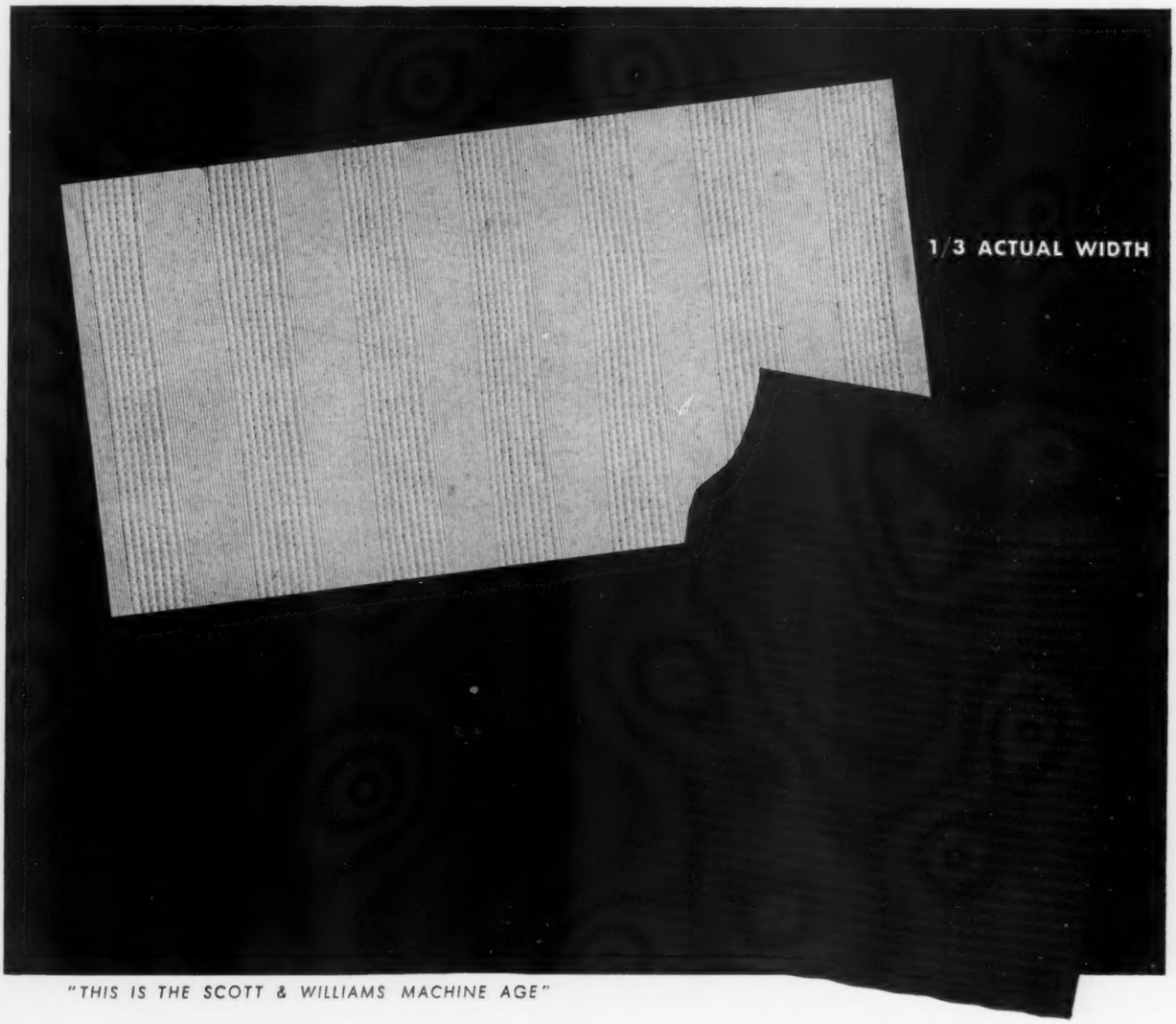
Albert T. Matthews

A roving editorial photographer recently made this picture of Albert T. Matthews at his desk at the Martha Mills of The B. F. Goodrich Company, Thomaston, Ga., of which he is vice-president and general manager. "Mr. Albert" this year is treasurer of the Cotton Manufacturers Association of Georgia . . . . .

KNITTING SECTION

BOTH PRODUCED ON THE SAME MACHINE!

THE SCOTT & WILLIAMS AUTOMATIC BODY MACHINE



"THIS IS THE SCOTT & WILLIAMS MACHINE AGE"

These samples illustrate but two of the many combinations of stitches and varieties of widths which it is possible to produce on the Scott & Williams Automatic Body Machine in all standard gauges.

The samples are exact reproductions reduced in width two-thirds, both made on a 15" 12-cut automatic machine. These fabrics are especially adaptable to outerwear, bathing suits and "snuggies."

ESTABLISHED 1865

SCOTT & WILLIAMS

INCORPORATED

366 BROADWAY, NEW YORK, N. Y.

SHOG and MULTIPLE NEEDLE WRAP **COMBINED ON THE** STANDARD 80W SHOG MACHINE

To the distinctive Standard 80W Shog Machine has now been added the multiple needle wrap device.

This permits the making of single needle wrap shog patterns or multiple needle panel wrap designs or combinations of both, heretofore impossible.

STANDARD TRUMP

Established 1872

STANDARD-TRUMP
BROS. MACHINE CO., INC.
366 BROADWAY, NEW YORK, N. Y.

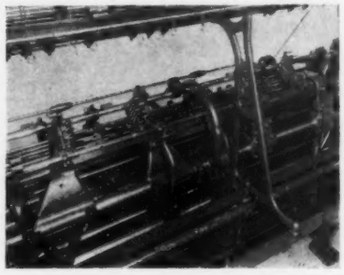
KNITTING SECTION

Modern Equipment and Processes (Continued)

Knitting - Braiding and Allied Lines

Cotton Sole Attachment

A cotton sole attachment for full-fashioned machines has been developed for use on machines equipped with the 3-carrier alternating attachment to permit the production of a cotton cradle sole with a 2-needle suture at the



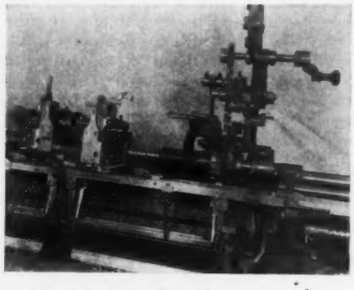
Cotton sole attachment

junction of the instep and sole portions. The attachment causes the splicing carrier rod slide to be raised at the proper time so that the splicing carriers are permitted to travel a distance of two needles farther in order to prevent the formation of holes when the reinforced selvage nuts are moved.

Textile Machine Works, Reading, Pa.

Double Spindle Reinforced Selvage Attachment

A double spindle reinforced selvage attachment has been developed, through the use of which it is possible to produce on the legger various heel designs, such as French heel, pointed heel, black heel, etc. In addition it



Double spindle selvage attachment (right end) . . . .

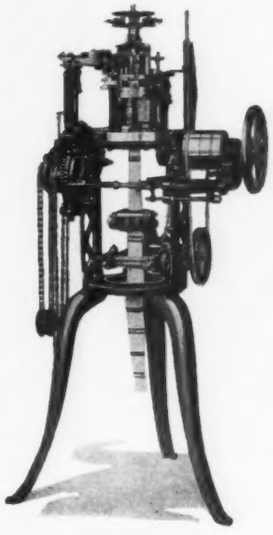
permits the production of shadow clocks, and the heel-within-heel feature at the same time the 3-carrier system of knitting is used. On the footer it provides the mechanism for making the semi or full cradle sole as well as other stepped formations, either with or without the 2-needle closed split feature, and a cotton cradle sole with a 2-needle overlap at the same time the alternating attachment is used. It provides a more rigid and flexible construction through the use of right and left spindles, and makes a uniform distribution of plating and reinforcing friction boxes possible.

Textile Machine Works, Reading, Pa.

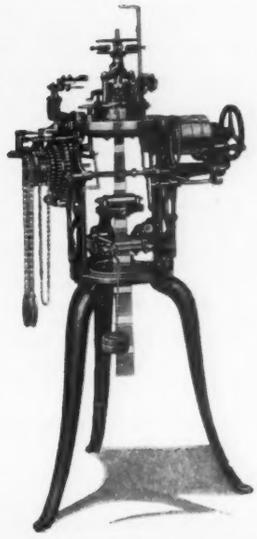
Brinton Developments

During the last few years Brinton have developed a number of new improvements including the rubber in-lay, five-color yarn changer, mesh machine —Style R. L., and rack welt ribber.

Rubber in-lay: This attachment can be applied to any Brinton ribber and has also been applied to other makes. When the rubber is introduced it is knit on one or two needles, and when it is taken out of action it is again knit on one or two needles. This causes the rubber to be tied in both at the beginning and the end and prevents creeping or slipping.



RL Ribber



Machine with 5-color yarn changer

Five color yarn changer: In this yarn changer, the fingers operate in a horizontal plane and when going into action, the yarn is thrown across the dial needles, instead of the cylinder needles, which tends to make a cleaner joint, it is pointed out. A single clamp of a new and unique construction is used. The yarn changer is a natural plater and plated fabric, in addition to stripes, may be made without difficulty. This yarn changer is applicable to Brinton and other makes.

Mesh Machine—Style R. L.: This is a trick wheel type ribber which makes mesh designs by means of tuck stitches. These tuck stitches are controlled by the trick wheels so that designs can be made in Jacquard patterns. The machine is usually equipped with the five color yarn changer, and also makes a picot edge. The needle selecting device is the well known trick wheel device which is simple in operation and permits a quick change from one pattern to another.

Rack Welt Ribber: This machine was developed because of the impossibility of making a selvage welt when making 2 x 2 fabric, it is explained. The rack welt is made by moving the dial and dial cap one needle when making the welt, which permits the making of the clearing course and produces a selvage welt.

H. Brinton Company, Kensington Ave. & M. Street, Philadelphia, Pa.

New Knitting Machines

A new automatic shaker hockey cap machine has been designed for putting the welt or turned-up part of the cap on without hand finishing, to eliminate expensive hand finishing operation and increase production. The machine is equipped with striping and plaiting arrangement.

Another new type machine is for the manufacture of skirts and sleeves, featuring a ribbed bottom, racked edge and needle transfer from rib to plain or shaker stitch. A separating course is also incorporated. All changes are accomplished automatically at one rate of speed.

Tompkins Brothers Co., Syracuse, N. Y.

The "Reading" Conditionaire

The newly developed Conditionaire constitutes a completely new departure in yarn conditioning equipment for full-fashioned knitting machines. A continuous sectional conditioning unit is supplied through ducts with humidified air by means of a hydrostatically controlled humidifier unit and an electric blower. Thus, scientifically regulated humidity is used for conditioning silk. The individual sections are fitted into the gallows to form a continuous unit running the entire length of the machine. Water pans and consequent rust are eliminated; silk mold is prevented through constant cool air circulation.

Textile Machine Works, Reading, Pa.

Expanding Examining Form

A new expanding examining form is made for operation either by foot treadle or compressed air. It is divided lengthwise, corresponds to the form of the stocking, and expands in proportion to the width of the stocking over the entire length. An adjustment screw provides regulation of stretch

and an adjustable toe piece makes the form adaptable for all sizes of stockings.

Textile Machine Works, Reading, Pa.

Tricot Warp Knitting Machine

A new 180-inch tricot warp knitting machine has been developed with an operating speed of 40½ racks per hour. It is known as the "Super-Marvel" machine, and is equipped with an electrical stop motion. It is adaptable to silk, rayon, wool and cotton and produces fabric ranging from nets and veilings to overcoatings.

Collins Loom Works, Inc., Amsterdam, N. Y.

Knitters' Bench

A new type of knitters' bench for full-fashioned mills has been developed, which is securely reinforced by spot-welding for eliminating screws, bolts, rivets, etc. Three smooth, brass, adjustable rods are attached to the cabinet for holding press-offs, seconds, and finished work. Individual lock drawers are featured with Yale locks, for tools, etc. The bench weighs 118 pounds, is finished in olive green Duco.

Knitter's bench

Joseph Amon, Rahway, N. J.

Electric Transfer Stamping Machine

A new electrically heated transfer stamping machine head is raised and lowered by means of a foot treadle, leaving both hands of the operator free to handle transfers and stockings. The machine comes complete with stamping dies, foot treadle, and rheostats to control the intensity of the heat.

Textile Machine Works, Reading, Pa.

Flat Knitting Developments

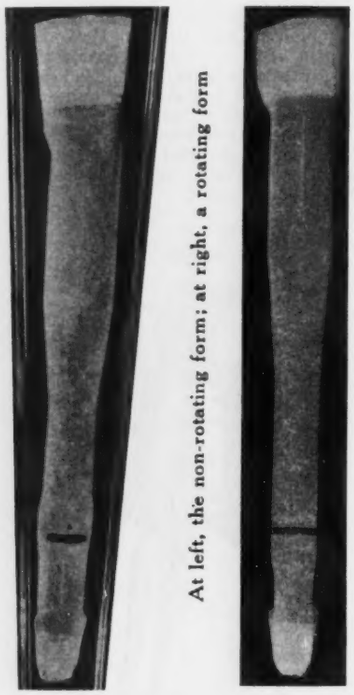
Two new types in full automatic flat knitting machines are, Type BAZ, a full automatic double lock Jacquard power machine with transfer appliance, and Type CAP, a full automatic purl stitch Jacquard power machine. The former is made to produce articles or patterns possible on existing single or double lock, eight lock or Jacquard machines, and in addition, other stitches and stitch pattern combinations. The machine is equipped with an appliance to transfer from one needle bed to the other, such as transferring from rib to jersey stitch, lace transfer, Jacquard transfer and purl effects.

Besides the normal links and links stitches, the Type CAP, through a new lock construction and other vital improvements, provides unlimited and new pattern and stitch combinations, e.g., of reversing the stitches of any needle at will on the front and back of the fabric in every row of stitches in whatever direction the carriage moves.

Dubied Machinery Company, 11 Beach St., New York City, representing Edouard Dubied & Cie., Neuchatel, Switzerland, manufacturers.

Non-Rotating Inspection Machine for Full-Fashioned

The new non-rotating type of inspection machine for ladies' full-fashioned hosiery, it is pointed out, provides a plainer view of the defects, with resultant improvement in quality and increase, according to operating data, of 6 per cent better work and 12½ per cent increased production. The machines are equipped with a new unbreakable black glass form which retains the contrasting color and smoothness desired. The illustrations are used to show the difference between the rotating and non-rotating type.



At left, the non-rotating form; at right, a rotating form

Edward R. Ammon, Inc., 515 North 3rd St., Reading, Pa.

Cleaner and Lubricant

A solvent and penetrant for full-fashioned hosiery machines, known as Check, has been developed for use in removing sticky accumulations on needles, sinkers, moving parts or bearings. It is recommended that machines be thoroughly cleaned every four to six weeks; and it is stated that it is not necessary to follow up an application of Check with oil or other dressings as it is best to allow it to penetrate thoroughly.

A needle lubricant, preserver and polisher known as Humdinger is developed which, it is stated, emulsifies at the needle bar and prevents the papers from getting wet. It adheres to the needles and does not run off, it is pointed out, and also keeps the needles clean and polished, providing smooth start-ups after week-end or other shut-down periods.

H. C. Harding, Inc., 18th St. & Sedgley Ave., Philadelphia, Pa.

Multi-Shape Hosiery Form

The multi-shape form with special attachments is a development in hosiery finishing equipment designed to make it possible to board many different shapes on one drying form. The new equipment can be used to board simultaneously half-hose, anklets, and many other styles by applying the proper attachments, which may be slipped on and off by the operator, attaining the identical temperature of the forms themselves.

Philadelphia Metal Drying Form Co., Philadelphia, Pa.

Hosiery Tables

A line of tables designed and built particularly for hosiery mills are constructed with rigid, tubular legs and a durable steel frame, with enough weight to remain stationary under ordinary circumstances and light enough to permit moving when necessary. Leg brackets are provided for joining two or more tables when desired. The tops are available in steel or Carrara glass, and these tables are designed for examining, pairing, stamping, ticketing, packing, wrapping, etc.

Textile Machine Works, Reading, Pa.

S. & W. Improvements

A 25 step Model K spiral gusset toe machine has been equipped with a new attachment for laying in rubber on the inside of the welt. The new attachment is especially interesting in connection with knee length stockings. Various models of the H H half-hose machine feature the 25 step Model HH-NRP machine for making reverse plated patterns by the needle deflective method; the Model HH-PW machines combine the HH features of economy with comprehensive true panel wrap patterning. This wrap type machine knits a complete hose—rib top, leg and foot—with embroidery patterns. The Model HH 25 step spiral machine has been equipped with the laying-in rubber attachment which is applicable to any type of HH machine.

The Model ES 36 wrap machine is equipped with the new color-in-color and-color-beside-color attachment.

Scott & Williams, Inc., 366 Broadway, New York City.

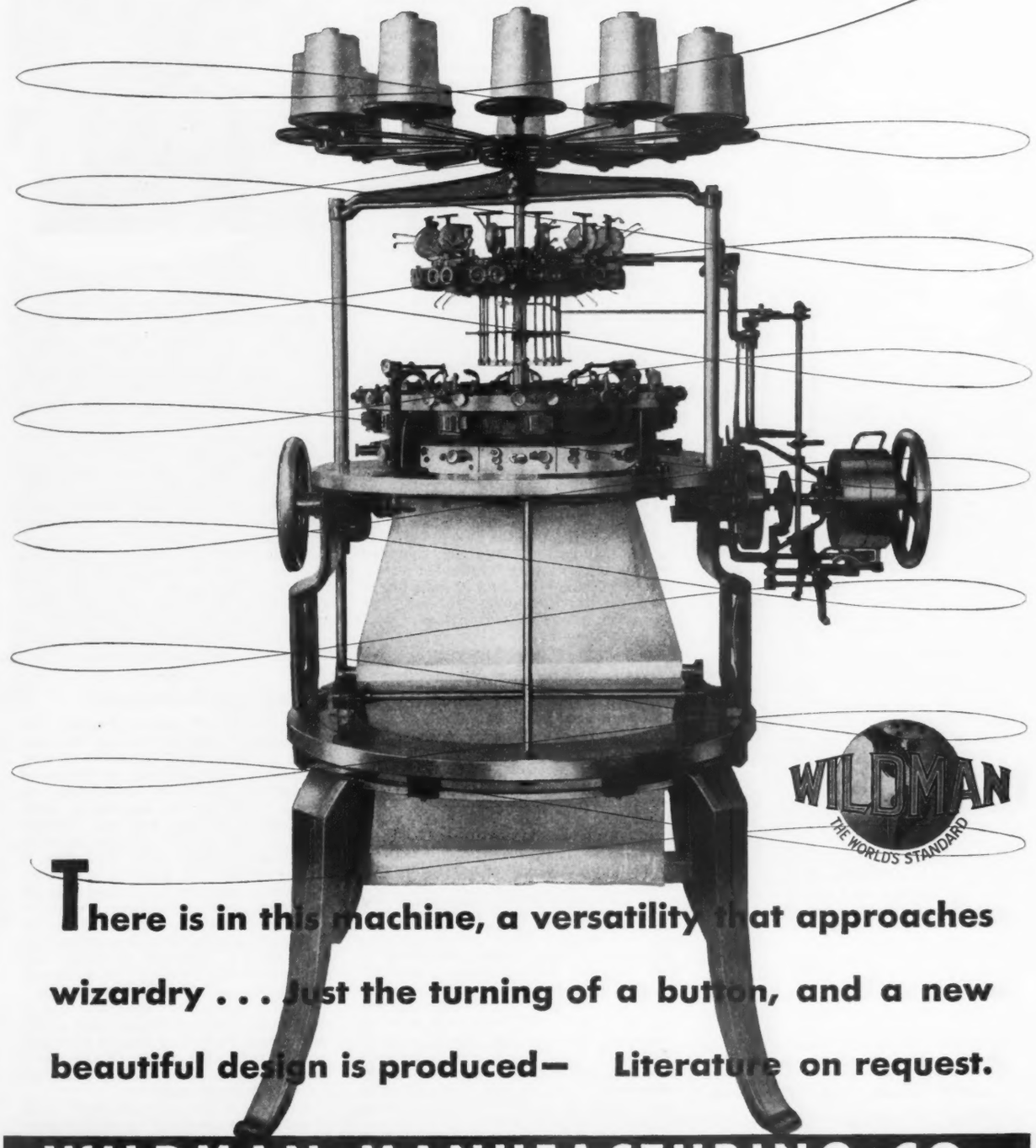
Shorter Groove Needle

A shorter groove spring beard needle is designed to minimize corrosion by reducing the amount of space up underneath the beard where oil, dirt and lint are most likely to collect, and also provide increased strength and lasting qualities to the needle itself. This development is particularly important in view of the trend away from ingrain toward dip-dyed hosiery and all-silk knitting. This development succeeds in greatly reducing one of the most serious causes of trouble in the knitting of full-fashioned hosiery and at the same time reduces the needle bill by giving longer and smoother service.

The Torrington Company, Torrington, Conn.

The WILDMAN

SPRING NEEDLE BODY MACHINE



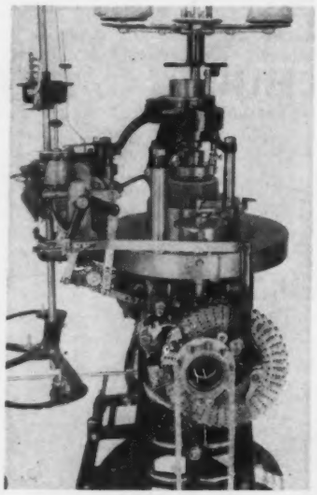
WILDMAN
THE WORLD'S STANDARD

There is in this machine, a versatility that approaches wizardry . . . Just the turning of a button, and a new beautiful design is produced— Literature on request.

WILDMAN MANUFACTURING CO.
Norristown, Penna.

New Racking Ribber

A new machine has been added to the Fidelity Universal Ribbers for producing the popular 2 and 2 rib anklets and socks with the blazer striped top. A simple and effective mechanism was developed for racking or shogging the



Racking ribber

cylinder, to enable the production of a fine selvage welt edge. The machine is equally adaptable to fine gauge 2 and 2 rib tops, as well as to the very coarse gauge used for hiking, skiing and skating socks. The direct mechanical control of the racking mechanism is simple and compact, being mounted entirely below the retaining ring. The shogging attachment has been developed to function equally well with either two-color or three-color stripers or five-color knot tyer and yarn-selecting units.

Fidelity Machine Company, 3908 Frankford Avenue, Philadelphia, Pa.

High Speed Braider Carriers

A new braider carrier to provide uniform tension and higher speed has been developed. It is stated that no alteration of present equipment is necessary in installing these carriers.

Apco Mossberg Corporation, Attleboro, Mass.

New Full-Fashioned Machine

A full-fashioned hosiery machine in which the guaranteed working speed can be increased to 80 courses per minute, through scientific development of sinkers, needles and cams, with the operation of the machine built automatic as far as practical, is announced. A combination machine makes the leg and foot in one operation, with the advantage of a simple mechanism with unsplit needle bars or press bar allowing the instep to be adjustable and a perfect match obtained without any line. This combination machine bears all the latest improvements and also the high speed.

Robert Reiner, Inc., Weehawken, N. J.

Looper Improvement

In the new Model K two-thread, elastic-lockstitch looper, the sewing mechanism is located at the right side of the looper to provide the operator with a constant view of the sewing operation at all times. The point ring may be moved in either direction without taking the worm out of mesh by holding the trip lever on top of the worm wheel and turning the point ring with the knob on the top of the pinion shaft. Upon releasing the lever point, the ring will register accurately.

John W. Hepworth & Company, Lehigh Avenue & Mascher St., Philadelphia, Pa.

Banner Developments

A new wrap stripe attachment makes possible the knitting of wrap stripe hosiery on plain Banner machines, or the knitting of a unique combination of wrap with reverse plaiting (sinker method) on 12- and 24-step reverse plaiting machines. The attachment is supplied with 12 color feeds and eight steps and may be run in conjunction with the Banner horizontal striper. It may also be used, with slight adjustments, for producing attractive tuck stitch effects, with unusual color effects. Thus, on the plain machine with attachments it is possible to knit eight distinct types of hosiery: plain hosiery, tuck stitch hosiery, plain stitch with "Brittany" or horizontal stripes in a variety of colors, 12-step reverse plaited pattern, 24-step reverse plaited pattern, genuine wrap stripe patterns in clocks, panels or all-overs, wrap plaid effects, or a combination of wrap stripe with reverse plaited patterns. The attachment is available for both plain and reverse plaiting machines in cylinder sizes from 2½ to 3¾-inch.

Hemphill Company, Pawtucket, R. I.

Full-Fashioned Developments

Developments incorporated in the Kalio legger-footer type of full-fashioned machine and the "Complet" machine include the center carrier rod control machine with its divided needle bar, catch bar, press and knocking-over shaft, to provide, apart from ease of operation, reduced temperature variations and eliminate the difficulties arising therefrom. The automatic stitch regulation and speed regulation further carry out the replacement of manual operations by automatic control. The solid shogging cam and the bridge type shogging device are designed to provide smooth shifting of the cam shaft, and, together with the rigid "bridged-beam" construction of frame braces, to permit higher and safer operating speed. The positive screw lift mechanism for the narrowing machine operates to overcome injury in improper manipulation of the narrowing machine.

Louis Hirsch Textile Machines, Inc., 47 West 34th St., New York City.

Standard Machine Improvements

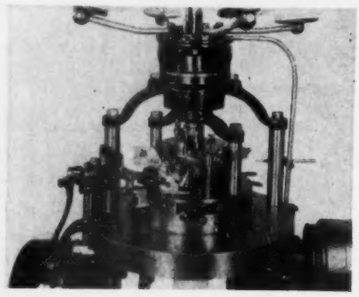
A multiple needle wrap attachment has been applied to Standard models 80-W and 80-W shog knitting machines, whereby it is possible to wrap from one to four needles at a time, with each wrap finger, greatly increasing the pattern scope of the machine. Previously it was possible to wrap only one needle at a time with each wrap finger.

The Model H machine has been equipped with five color selective striper.

Standard-Trump Brothers Machine Co., Inc., 366 Broadway, New York City.

New Three Color Striper

A new three-color striper provides for two colors or types of yarn to be introduced, in addition to the main body yarn. The design is different in that, instead of being set parallel to the vertical line of the machine, the fingers are set at an angle of 30 degrees. Provision is made for positive certain yarn change at all times. The yarn change occurs continuously on the same cylinder needles, assuring the introduction of one yarn before the other is thrown out of action. Ample room is designed between the yarn cutter shears and the loose course plate to prevent the needles from striking the shears and bending the dial needles. The yarn cutter shears have a multiple clamping device for marked operating advantages, particularly with silk. As the first stitch of the needles locks the yarn, the clamp holding the end of the yarn opens immediately. The yarn end is released as the yarn is fed to the needles. At this position, the shears are empty and wide open. The finger with the old yarn is carried away from the needles into the mouth of the open shears, to prevent the yarn from wrapping and winding itself around the dial.



3-color striper

Fidelity Machine Company, 3908 Frankford Ave., Philadelphia, Pa.

Full-Fashioned Developments

The half-speed shock absorber for full-fashioned machines causes the carrier rod speed to be reduced to about one-half its normal rate of travel as the end of the stroke is reached, reducing wear on the narrowing nuts, the coulier motion, and the friction boxes, and often permitting a speed of operation in connection with the 3-carrier system not possible otherwise.

The camshaft air brake uses only air as a medium for obtaining a cushioning effect when the cam shaft shifts. It permits a quick shifting of the cam shaft with a minimum of shock, and has a determining effect upon the operation of the full-fashioned machine.

Balancing cams are designed to compensate for the unbalanced cam action on the cam shaft, and tend to eliminate uneven rotational speed of the shaft, resulting in smoother performance and a more uniform fabric.

With the water cooled friction shaft, a continuous stream of water is pumped through a hollow friction shaft, and since the water is kept at a constant temperature by a thermostatically controlled heating unit, the temperature of the friction shaft does not vary.

Textile Machine Works, Reading, Pa.

MEN want socks that will go places and get back with the same trim appearance they had when they started. They will buy socks that are ready for wear after each laundering, with no darning needed. They will keep on buying socks that give this service and, in addition, are comfortable and absorbent.

Men like to buy socks made of Dixie durene. This yarn helps knitters make trim appearing socks because it has elasticity that keeps them ankle-snug through hard wear. Dixie durene's natural fibre strength, increased with controlled processing, helps take care of the darning problem.

Men's sock comfort depends on softness and ability to absorb. Dixie durene's air drying and control mercerizing directly create a soft yarn with extraordinary absorbing power, and that means real sock-comfort.

Several mills are "going places", marketwise, with men's Dixie durene socks. Dixie's representative will gladly get you samples that will demonstrate the possibilities for you in this control-manufactured yarn.

Dixie MERCERIZING COMPANY

CHATTANOOGA, TENNESSEE

DIXIE DURENE . . . A Product of Controlled Manufacture

Another System of Routing Goods from Knitter to Dyehouse

EDITOR COTTON:

On page 123 of the June issue of COTTON, "CONTRIBUTOR No. 6369" has written a fine article giving his system of keeping a record of knitted goods from the knitting machines to the dyer, under the title, "Routing Goods from Knitter to Dyehouse". I think this is a mighty important subject because involved in this problem are major losses and loose ends that are so invisible, yet so costly.

I heartily agree with him on his system as described for a mill that has only sequential production, but I would like to add my experience by describing our system which has parallel production as well as sequential. To make myself clear, I will outline both systems and describe how they work out in the end.

The sequential system: Our knitting machines and ribbers (for children's ribs) are on the same floor with a check room between. A copy of the customer's purchase order comes to the knitting room, production tickets are printed to correspond with the usual allowance for imperfects which vary on the different styles. The tickets are then placed up on the production board. The ribber operator turns his tops in, in five dozen bundles. The checker places his production ticket with the operator's number both on the master stub and also on a rib production stub which is the payroll ticket for the operator, then the tops are placed with the knitter on the opposite side of the room; any shortage from bad tops is made up from an extra bundle, and when the extra bundle has been used, then a substitute ticket is placed on the production board and reproduced. When the knitter has finished the bundle, it is returned to the check room, his or her number placed upon the master and the pay ticket as in the case of the ribber, both stubs being kept by the checker. The work is then placed in a truck, and wheeled to the opposite end of the room to the loopers, and is distributed according to gauge to the corresponding loopers. The inspectors are immediately in front of the loopers in easy access to the work boy, who examines the tickets when the looper is finished to be sure she has put her number on the master ticket and kept the stub which is taken up at the end of the day by the fixer and sent to the office for pay.

It might be well to make clear what happens to the imperfects found in the examining process, which is next in line. Each examiner or inspector has her own mender; the goods so mended are placed back in the bundle with the perfects. When the inspector has turned and examined (all defects being charged back to the various operations) the work is ready for the gray stock, where it is taken in trucks sorted by size and style (color if ingrain) then placed upon a perpetual inventory for routing by dye tickets which are made by the purchase order, and is then followed through the dye or damp to the boarders, then through the pairing, stamping, tagging, folding and boxing, being paid for by the coupons from the dye ticket. Packing and shipping are done by the original purchase orders and paid for by same.

Then comes the parallel system wherein the rib tops, mostly fancy anklets, are made in one room and the feet from automatic machines made in another. The tops are turned in to the check room in five dozen reels with a special top ticket with only three stubs—one for the rib operator, one for the top puller or cutter, with a master stub with the style, size and past operator numbers, being placed convenient to the sewing tables which are adjacent to the top pullers. The feet come into the check room with the usual production ticket (less the rib stub), then go through the loopers and inspectors, but instead of going into a truck for the stock room, they go into the bin with the tops to be sewed, then to the stock room in the same manner as the other goods.

If the system we are using is any help to the readers I am glad to contribute it and I would be glad to see descriptions of other systems along the same line.

CONTRIBUTOR No. 6417

WE invite our readers to make use of this department for the discussion of any and all problems arising in connection with the knitting mill from the office to the packing and shipping departments. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. All questions will be answered as promptly as possible. The names and addresses of the contributors must be given, but will be held in confidence and a pen name substituted when printed. All acceptable contributions other than questions will be paid for after publication. The editors do not hold themselves responsible for any statement of opinion or fact which may appear in this department unless so endorsed. This department is open to all.

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Helpful Hints on Standard Knitting Machine Fixing

(Editor's Note—This is the fourteenth and last of a series of articles discussing the parts of Standard knitting machines and giving helpful, practical suggestions on fixing them. The first article appeared on page 129 of April 1934 and gave a history of these machines. The second article, on page 127 of May 1934, covered the parts shown on Plate 1 in the Standard catalog. The third article, covering Plates 2, 2A and 3, was on page 105 of the July 1934 issue. The fourth article, covering Plates 4 and 5, was on page 101 of the September issue. The fifth article, page 105, November issue, covered Plate 6. The sixth article, on page 107, January 1935 issue, covered Plates 8, 9, 10, 11 and 12. The seventh article, page 111, March 1935 issue, discussed Plates 13 and 14. The eighth article, page 134, May issue, covered Plates 15, 16, 17, 18 and 19. The tenth article covering Plates 20, 21 and 22, appeared on page 125 of the June issue. The eleventh article, page 99, July issue, covered Plates 23 to 24A inclusive. The twelfth article, covering Plates 25 to 30, appeared on page 103, August issue. The thirteenth article, covering Plates 31 to 40 inclusive, was on page 117 of the September issue.

The numbers in parentheses following the names of parts are the numbers used by the machine manufacturers for the various parts. It is suggested that the reader refer to the plates in question in the Standard catalog in reading these discussions, and that he clip these articles and file them in the catalog with the various plates for further reference.)

Standard—Plate 24-D

EDITOR COTTON:

The Trick Wheel

A brief description of the eight-step lever reverse plaiting attachment was given in the September issue of COTTON, page 117. As stated in that article, the trick wheel control was developed at a later date to replace the step levers used in connection with the reverse plaiting attachment. The trick wheel control, in addition to being used on the sinker reverse plaiting attachment, is also used in connection with the two-feed attachment, the sinker clocking and the floated thread attachment. The outstanding feature of the trick wheel is that it greatly increases the usefulness of these various devices, and makes them more flexible. Trick wheels are being used very extensively in the knitting field; they can be found on various makes of domestic and foreign types of circular knitting machines, ribbers and body machines.

Use of the trick wheel in connection with the reverse plaiting attachment eliminates the bulk of the parts shown on Plates 37 and 39 and the eight-step levers shown on Plate 36, which of course means less machine trouble, less work for the fixer, and consequently greater production. The complete trick wheel is shown on Plate 24-D. It is mounted on the stud (K-3932). Note the oil groove in the stud—and make use of it. A friction plate (K-4065) is supplied; it assures steady motion. The tricks are set into individual slots and held in position by a spring band, both eight- and ten-set tricks are shown on Plate 45. The designs or patterns are made by breaking out teeth in the trick. The broken out places permit the intermediate operators to come in contact with the jack cam operators, causing the jack cams to move inward and act on the jacks in the jack ring. Thus the designs which are worked out by arranging the jacks in the jack ring are reproduced in the knitted fabric. Make sure that the jack cams, jack cam operators and intermediate operators work freely. A very light oil should be used on these parts to prevent them from becoming sluggish in movement. The amount of inward movement of each jack cam is important; it is controlled by the individual jack cam operator adjusting screws (K-3280).

The trick wheel is driven by the pawl (K-725), which acts on the ratchet teeth. The pawl can be advanced or retarded to give the proper stroke. Movement for the pawl is supplied by the bracket (K-4080). The bracket in turn is operated by chain links which run on the striper chain sprocket, only one height of lug link being required. Each lug link supplies one move for the trick wheel. The cam (K-4156) which is attached to bracket (4080) rides on the chain link lugs, the spring (K-706) holds the bracket and cam down on the chain links. A greater variety of patterns can be made with the trick wheel arrangement due to the manner in which the jack cams are controlled. Any number of jack cams from one to all eight can be thrown into action at one time. With the step lever device, the use of the jack cams was limited to *one* at a time.

The trick wheel control used in connection with the reverse plaiting device eliminates a great deal of trouble which was common with the old step lever arrangement. From a mechanical standpoint, the trick wheel control device is very simple and efficient. All adjustments are placed where they can be gotten at easily. The device requires very little attention once it is properly tuned up.

Plate 41

The various parts shown on Plate 41 were especially designed to be used on fine gauge machines. The bulk of the parts shown are very similar to like parts for coarse gauge machines. The sinker dial cap as shown on the plate is provided with two eccentric adjustments (K-3587) for the right and left sinker cams. The sinker cams are made in two pieces which overlap in the center. The cam ring and filling-in piece are identical with those used on coarse gauge machines. A sinker spring band was used, the sinkers being especially designed for use with a band. The end cams have a slightly different shape from that of those first used on coarse gauge machines; regular stitch cams were used except that they were hollow ground—this was not practical on coarse gauge machines.

It would be out of order to go into a detailed discussion about the parts shown on Plate 41, for on modern fine gauge machines most of these parts have been re-designed or slightly changed. The sinker dial cap is similar to the old cap used on coarse gauge machines; the eccentrics have been discarded. Provisions have also been made on the new cap to take care of the new double sole slackening device which operates by sinker control, requiring the widths of sinker butts. This device was fully described in the July issue of COTTON, page 100. The sinker cams are made in two pieces similar to the cams on the plate, the shape of the cams, however, remains the same as the old one-piece cam. The sinker spring band has been discarded. The shape of the end cams has been changed, also the manner in which they are attached

to the back half. The new end cams can be adjusted circumferentially which, in my humble opinion, is one of the best improvements made on the Standard H machine in the past few years. These new end cams are available for both fine and coarse gauge machines, and better fabric, more even knitting, in short, finer merchandise, can now be produced on Standard H machines than ever before.

The practice of hollow grinding stitch cams on seamless machines is of course not new; old time fixers were doing it way back in 1915 and it is still being done today.

It is interesting to note the trend toward Standard H machines during the past few years. I refer mainly to their use for producing infants' and children's numbers.

Plate 42

The Double Sole Attachment

Two types of double sole operating cams are used on Standard H machines. The operating cams for plain machines are shown on Plate 6, additional parts are also shown on Plates 1 and 3. The parts shown on Plate 42 are used on machines which require the use of a jack ring such as the reverse plaiting attachment and others. The main difference between the two double sole attachments lies in the shape of the cams which operate the lever (K-3685) and the manner in which the operating cams are attached to the sinker dial. The plain sole cams shown on Plate 42 are attached to the outer edge of the sinker dial, both ends being individually adjustable. The remaining parts used in connection with the double sole attachment shown on Plate 42 are the same as for plain machines. The bracket (K-3660) is similar to that used on plain machines except that it is equipped with two thrust cams (K-3757) and (K-3746). These are used in connection with devices which require the use of a jack ring.

Plate 43

Adjustable parts for the double sole attachment are shown on Plate 43. The double sole yarn finger assembly is the same as for plain H machines, the slackening lever assembly and slackening cams are also regular equipment used on all machines. These parts and their adjustment were described in an article covering the parts shown on Plate 22, page 125, June 1935 COTTON. The double sole attachment shown on this plate, with the exception of the finger assembly, has been replaced by the new double sole slackening device which was first shown at the 1935 Knitting Arts Exhibition and was fully described on page 100 of the July issue of COTTON.

Plate 44 to 53 Inclusive

The sinker clocking attachment is shown on Plates 44 to 49 inclusive. This device was not used very extensively, few if any are still in use. A detailed discussion of these plates will, therefore, be omitted.

The device shown on Plates 50 to 53 inclusive is known as the trick wheel control for floated threads. The various brackets and levers shown on Plate 50 are used to control the device. Since this device is not being used in this day and time my remarks in connection with it will be brief. The parts shown on Plate 51 are similar to those used on the two-feed attachment. The trick wheel assembly shown on Plate 52 is the same as the one used on the reverse plaiting attachment. It is placed on the right side of the machine and driven in the opposite direction from that of the reverse plaiting trick wheel. The jack cams and bracket assembly are also placed on the right side of the machine. They operate in the same manner as similar parts used on the reverse plaiting attachment. Various designs are made by floating the yarns across certain needles, as special No. 5 yarn finger shown on Plate 53 is used to feed the yarn. This device, like some others, has seen its best days and is now awaiting a revival which may never come.

Plate 54

The Plain Sole Attachment

This simple device as its name implies is used to make a plain sole in fancy numbers. The device consists of two levers (K-2982) which are attached to their respective shafts, and two springs (K-3252), which are attached to the levers, and the jack cam operators. Movement of the levers (K-2982) plus the pull of the springs on the jack cam operators causes the jack cams to become inoperative while the bottom of foot is being knit, thus the designs show up only on the instep side, the bottom of the foot, and a small portion immediately above the heel being left plain.

This concludes the discussion "Helpful Hints on Standard Knitting Machine Fixing". I have tried to be helpful. The machine fixer of today knows a great deal more about Standard machines than I do, and I hope my remarks will help those who are learning and the fixers of tomorrow. A well qualified fixer can render a valuable service if he will help the apprentice who is willing to learn. I appreciate the space given to me; just trying to serve has been a pleasure.

MARTIN A. SHAW

Answers Questions on Dyeing Knit Fabric

A'lso asks a question on loss in processing balbriggan fabric . . . . . .

EDITOR COTTON:

I shall answer the questions asked by "CONTRIBUTOR NO. 6404" on page 100 of the August issue of COTTON. He first wanted to know whether it is practical to dye knit fabric containing cotton and acetate with developed dyes leaving the acetate yarn white; stating that he had found that most all developed dyes stain the acetate during the developing process.

In answer to this, I will state that it is not practical to use developed dyes on fabrics containing acetate where the acetate must be left a clear white. There are a few dyes that will leave acetate white but not enough to produce any variety of shades.

He also asked for the brightest fast-to-light direct dyes for producing a nile green shade on cotton knit goods, and whether using a blue and yellow to produce

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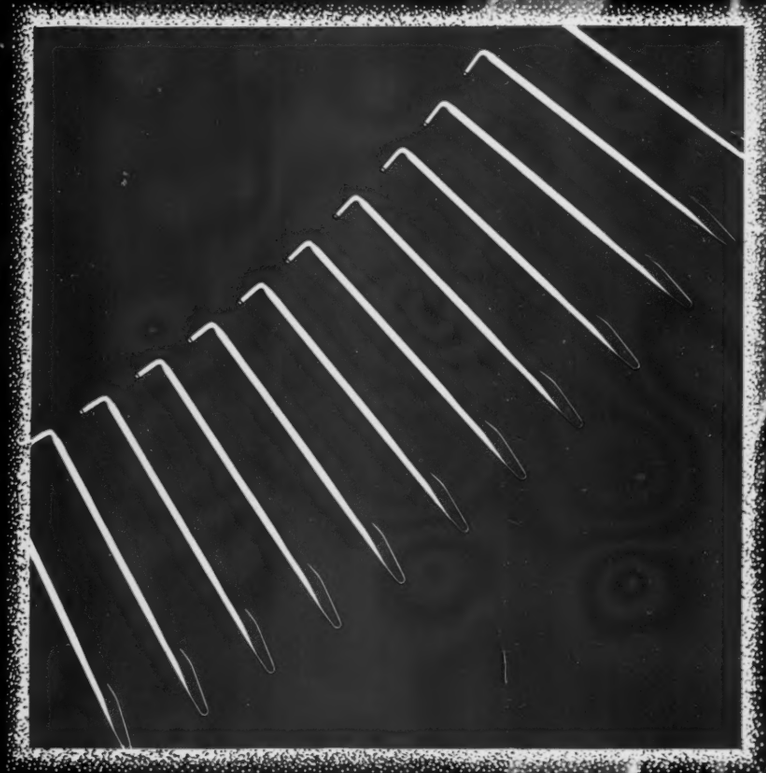

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Latch

a green would be advised.

I suggest the use of colors like Direct Blue 4GL and Direct Yellow 4GL. This is not an easy combination of dyes for the dyer, but with proper care a good fast-to-light nile green can be obtained.

A mixture of blue and yellow dye is not the easiest method of producing a green shade. I suggest that a bright, direct green dye along with a direct yellow be used for green shades. The contrast between the two dyes is not so great and therefore a more level dyeing can be expected. The slow raising of the temperature has a lot to do with the dyeing of level shades. Even an excess of time at the boil will not level some shades on cotton when brought up too quick.

Now, I would like to offer the following question for discussion: What loss in weight should one expect from 38s combed peeler balbriggan fabric when being processed, and how can one recover part of that loss without changing the texture of the fabric, i. e., giving the fabric a greasy feel so as to readily discover that it has been loaded?

CONTRIBUTOR No. 6415

Prefers Special Hands for Pairing "Throw-Outs"

EDITOR COTTON:

After hosiery has been dyed and boarded it must be inspected for imperfections so that all defective hosiery may be set aside. These defective hose are called "throw-outs". It is the custom of many hosiery mills to have their regular pairers grade, classify and pair the throw-outs as well as pair the perfect goods. The writer has found that it is far better to have special throw-out pairers do this work. There are several reasons to fortify this belief.

As before mentioned, throw-outs are defective hosiery and these are usually graded as follows: Irregulars are the first classification below first quality. Seconds are the next lower bracket. Then come thirds, fourths (if any) and waste incapable of being mended. Cut and dried rules and regulations cannot be made for the gradings of these classifications. A general itemization can be made as to what defects fall into each classification but the proper handling and distribution depends principally upon the good judgment and intelligence of the individual operator.

By having all throw-outs paired by throw-out pairers increases the production of the regular pairers because a good deal of time is required to properly classify the throw-outs and the regular pairer naturally is anxious to get as much production as possible. Therefore, if she handles only regular first quality goods she can attain a high speed and good production.

The throw-out pairers can save their employers considerable money through grading the throw-outs carefully. If the regular pairer is pairing throw-outs she is anxious to get production because she is on piece-work and she will pair up the throw-outs as hurriedly as possible and may put work good enough for irregulars into a lower classification such as seconds, etc. The throw-out pairer who is specially trained for this type of work will examine each stocking carefully. She may find some stockings, which were thrown out, to be perfect and suitable for first quality classification. She will also obtain the best percentages of work for the higher classifications that is possible. This is particularly important on high-grade, fine gauge hosiery where the differences in price between firsts and irregulars, and between irregulars and seconds is tremendous. A throw-out pairer has only to find a few dozen hose which can be put into the higher classifications to earn her salt. I have seen throw-out pairers go over lots of throw-outs and retrieve as much as 10 or 15 per cent of the throw-outs for first-quality goods which had been discarded by a too zealous examiner.

It is not a good policy to put these throw-out pairers on piece work as this will only encourage them to speed up their work and will result in carelessness and will eventually thwart the entire purpose of their position. They should be placed on time work and the smart forelady or foreman of the finishing department will see that they maintain a satisfactory production. Included in throw-out pairing is, of course, all work which has been latched and press-mended.

Throw-out pairing properly handled with the right girl on the job will pay its traffic many times over.

M. M. ABRAMS.

Has Trouble With Breaking out at Transfer on Full-Fashioned

All readers with experience on this type of full-fashioned are invited to submit their ideas on this problem . . . . . .

EDITOR COTTON:

Here is a question which I would like very much to see discussed in COTTON:

In our mill we seem to have an unusual amount of trouble with stockings breaking out during the transferring of legs on the footer, on full-fashioned stockings. Some footers average as many as a dozen and a half bad stockings per day due to breaking out over the instep when the footer bars are transferred. We have tried a lot of remedies, but none of them has helped us in checking this trouble to date.

We are knitting a 42-gauge stocking, 4-thread, 13-turn silk, 46 courses to the inch. We have re-pointed the footing bars and topping stands; we have tried using special oil to make the fabric slip more easily off of the points onto the needles in the machine; we have tried using an emulsion on the stockings after they are topped on to soften the silk—and we still get the breaking out. As will be readily seen by the specifications, the stocking is not being knitted unusually tight, neither is the silk twisted very hard.

I would be glad to have expressions from some of your readers in "KNITTING KINKS" as to the probable causes and remedies for this difficulty.

CONTRIBUTOR No. 6399

THE KNIT GOODS MARKETS . .

Philadelphia, Pa., September 16, 1935

Raw silk has continued its upward swing during the last month, prices showing an advance of approximately 20 cents during the period, which means the raw material is up about 50 cents this year and selling at about 75 cents per pound more than this time last year. The upward movement in the raw material has been the outstanding factor in bringing about an advance in full-fashioned hosiery prices which have been announced by manufacturers beginning early this month. Most have confined the changes to 25 cents per dozen, which is not expected to make any great change in retail prices.

Hosiery Prices Rise with Raw Silk Costs

The noticeable strength in raw silk quotations, which has brought the raw material to a price that will soon be double that of the low point reached by the market a year ago not only has been the primary reason for full-fashioned manufacturers raising prices but has been an important reason that wholesale and retail buyers generally have suddenly placed a large volume of business for their needs, in many cases, until the end of the year. The rise, preceded by numerous withdrawals of "off-the-list" prices, began two weeks ago when the accounts of the Berkshire Knitting Mills and the Nolde & Horst Company received new lists showing advances of 25 and 50 cents by the former and a flat 25-cent increase by the latter. Rosedale Knitting Company announced that its prices would be advanced in proportion. These were followed immediately by announcements from Adams-Millis Corporation, Oakbrook Hosiery Mills and others selling volume accounts. At the same time, it was indicated that a further rise in raw silk would bring about another increase in hosiery prices. A check-up among some of the wholesalers revealed that they were unable to buy 42-gauge goods at the former prices of $4.50 and $4.75 a dozen; they found that 39-gauge, available up until the middle of August at $4.25 had risen to around $5.20. It was also noted that 42-gauge, 4 and 5-thread ringless goods which had been listed late in August at $5.00 by some mills were now $5.25 and $5.35.

The preceding prices all refer exclusively to quantity orders. A straight advance of 25 cents a dozen was announced September 5 by the Apex Hosiery Company, completing the upward move by the biggest producers. Apex raised its 42-gauge 4-thread conventional number from $5.25 to $5.50, and a ringless number of the same construction from $5.50 to $5.75. Similar increases were placed in effect among the smaller mills, some of which have been quoting as much as 50 cents a dozen above the extreme lows of July.

The industry in reviewing its costs with raw silk at its present level is finding that a 25-cent advance over last spring prices barely covers the upturn that manufacturers are paying for their raw material. There is no question but that buyers of full-fashioned goods will be confronted with still further advances if the advance in silk continues. Many manufacturers are well sold ahead for several months but these orders were taken before the September advances were placed in effect and for which most of the knitters owned yarns at lower than present prices. Early this month several makers of branded full-fashioned hosiery, who followed the previous advance in unbranded goods, reported that orders had established a record. After the advance in prices, as was to be expected, this heavy rate of buying declined materially. A majority of wholesalers and chain buyers made commitments for this month and October delivery at the old prices and do not need to order additional quantities immediately.

42-Gauge Machines in Capacity Operation

Reports indicate capacity operation of 42-gauge machines on both conventional and ringless hosiery among plants in Pennsylvania and the South, following the heavy bookings before new prices went into effect. The spread between conventional and ringless prices is growing narrower despite the fact that some of the largest mills have estimated a difference in cost of approximately 25 cents a dozen. This difference takes into account the 5-cent royalty per dozen that is paid the licensor of the Kaufman patent by one group of 120 mills and about the same amount into a fund created by another group to contest the validity of that patent.

However, the machines with ringless attachments have been speeded up in many of the mills, and the problem of slow production has gradually been overcome, which is given as one of the main reasons why ringless prices are so close to the conventional range. Furthermore, many 42-gauge machines have been equipped with ringless attachments that the production at present of conventional goods of this gauge is so small as to command slightly higher prices than would ordinarily be the case.

It is estimated that full-fashioned gauge equipment which is running at a rate of about 80 to 85 per cent of capacity will be operated full time in October and November. Some of the night shifts laid off during the summer months were called back to work in the last few days and the industry is perhaps in better condition in regard to operating schedules than at any time since January and February. Some of the mills were more fortunate than a majority insofar as their raw silk purchases are concerned. A number are covered through October, less than a half a dozen until the end of the year and a smaller number, probably not more than two, into January. Reports indicate that the average for the full-fashioned industry in this connection is far from cheerful and some of the mills will be compelled to go into the silk market shortly and pay the higher prices.

Shipments of all types of hosiery from American mills during July of this year, amounted to about 7,000,000 dozen

Suits Filed Charging "Ringless" Infringement

Philadelphia, September 16, 1935

QUAKER Hosiery Co., of this city, was named defendant in a suit filed in the Federal District Court here by Julius Kayser & Co., and the Textile Patents Corporation, alleging infringement of Charles A. Kaufman's patent No. 1,969,307 for "ringless hosiery". The bill of complaint seeks to secure an injunction to restrain the defendants from continued alleged infringement of the Kaufman patent and it also asks for damages. The action is similar to the suit now pending in the United States District Court here against the Rosedale Knitting Co., of Reading, Pa.

Suits of like nature are pending in other sections against manufacturers which, the Textile Patents Corporation claims, are infringing on this patent. The entire hosiery industry is studying the situation with interest especially in view of the counter action by Rosedale in which it seeks an injunction against Kayser and Textile Patents enjoining them from continuing alleged intimidating tactics against hosiery manufacturers. Later a suit was filed seeking to dissolve the so-called patent pool controlling "ringless hosiery" patent rights as a conspiracy violating the Sherman anti-trust law.

Rosedale has also challenged the validity of the Kaufman patent and the first hearing on this will be November 25 when the suit of the patent owners comes up for a final hearing on their action seeking an injunction against Rosedale.

As in the case of the Rosedale, the Kayser company, which is the assignee of the patent, and the Textile Patents which holds the exclusive non-assignable license to grant sub-licenses to hosiery manufacturers, charge the Quaker company with flaunting their patent rights and manufacturing hosiery along Kaufman's specifications without paying royalties or obtaining the "necessary sub-license". On the other side of the controversy the Rosedale takes the position that there is no need to obtain a license because Kaufman's idea, they assert, is not a patentable one, and that what he did, if anything, could have been done by any skilled hosiery knitter.

Planing the frame for READING Full-Fashioned Knitting Machines.

In a 40-hour week the new READING high-production twenty-four section forty-five gauge full-fashioned knitting machine produces nearly sixty per cent more volume and more than seventy-five per cent more value than the ordinary eighteen-section thirty-nine gauge machine.

TEXTILE MACHINE WORKS ◆ READING, PA.

pairs, as compared with less than 6,500,000 dozen pairs for the corresponding month of last year, according to the National Association of Hosiery Manufacturers. Production for that month was 7,500,000 compared with 6,670,000 dozen pairs as of a year ago. Shipments of full-fashioned hosiery during the month were just under 2,000,000 dozen pairs, with shipments of women's seamless hosiery at 621,000, men's hosiery at 2,350,000, children's goods at 455,000 and other types at something less than 1,500,000 dozen pairs. Production of full-fashioned was 2,250,000 dozen pairs with women's seamless stockings at 672,000, men's hosiery at 2,600,000, children's goods at 470,000 and other classifications totalling approximately 1,500,000 dozen pairs.

July figures bring the total shipments for 1935 to that date up to 59,700,000 dozen pairs as compared with 59,370,000 dozen pairs for the first seven months of last year. Production for the first seven months of this year was 62,160,000 dozen pairs compared with 62,023,000 a year ago. Shipments for the first seven months were divided among the various groups with full-fashioned accounting for 18,000,000 dozen pairs, women's seamless just under 6,000,000, men's 18,000,000, children's goods approximately 5,000,000 and other classifications slightly 12,000,000 dozen pairs.

Production of full-fashioned accounted for 20,000,000 dozen pairs, women's seamless stockings 6,000,000, men's half hose 18,500,000, children's goods 4,000,000 and other types 13,500,000 dozen pairs. As is usually the case, production in July was in excess of shipments, there being an increase in month-end inventories as compared with the previous month. Total stocks on hand July 31 were 20,000,000 dozen pairs as compared with 19,000,000 dozen pairs on July 31, 1934. In this connection it should be taken into consideration that during the three months following the passing of the NRA much buying has been withheld until buyers could determine whether costs and prices were likely to change materially.

This situation has been materially changed by the large volume of buying which came into the market prior to these recent advances of 25 to 50 cents a dozen because of higher silk prices. It is expected that this picture will be further changed by the buying that will have to come into the market shortly for the holiday trade, which it is expected will fully absorb any increase in stocks that may have occurred during the past 90 days.

The hosiery association statistics reveal that the rate of turnover of stocks of all types was 5.6 times per year as compared with a rate of 5.9 times during the previous corresponding period. A marked improvement is shown in the turnover rate for full-fashioned hosiery which was 7.1 for the 12 months ended last July, as compared with 6.5 for the previous period. Seamless hosiery on the other hand turned over at the rate of 5.1 as compared with an earlier rate of 5.7. The bulletin showed the total number of workers, exclusive of salesmen employed by the hosiery industry to have been 138,000 during July. Of these, 79,000 were employed by the full-fashioned branch of the industry and 59,000 by the seamless branches.

In commenting on the inventory position of the industry as of the end of July the National Association of Hosiery Manufacturers said that the 20,000,000 dozen pairs represented a healthy situation but that it also called for caution on the part of manufacturers so that the industry does not find itself during the later months of the year in possession of excess stocks. This has been the main reason in the past that manufacturers were unable to sell at profitable prices. Another factor that makes this stock situation less ominous for manufacturers is that they were accumulated before the recent advance in raw silk prices. Now that the market for full-fashioned silk hosiery has shown a definite advance because of the increased cost of raw material, the disposal of much of this stock, should enable the manufacturer to realize slightly better profit margins which have been so conspicuous by their absence.

Wage Scale Arbitration

Manufacturers were warned against pushing a good thing too far, the comment being made "the dividing line between adequate and excessive supplies is an exceedingly delicate one". Manufacturers should not be tempted to take advantage of the active market which has developed and of the higher prices in some lines, to step up production to a point where it will over-balance stockholdings.

After an arbitration of wage scale differences by Lessing J. Rosenwald, chairman of the board of Sears, Roebuck & Co., an agreement between the Full Fashioned Hosiery Manufacturers of America and the American Federation of Hosiery Workers was renewed September 1 for another year. This decision by the arbitrator was regarded with considerable importance by not only the unionized section of the full-fashioned trade, but also by other manufacturers. The union had demanded an increase of 20 cents a dozen in wages while the manufacturers in this association said that the wage scale existing during the last year should be lowered 20 cents per dozen. The second question involved was whether operator on footing machines operated on a double-shift basis should be paid 40-hour pay for a 36-hour week, the manufacturers demanding that they work 40 hours instead of 36 as was true during the last year.

The arbitrator's decision was that there should be neither an increase nor decrease in the present wage scale. The question relative to operating footing machines on a double shift basis was decided that they shall be worked at a maximum of 36 hours with the employees being paid a bonus, bringing their rate to that paid for a 40-hour week. In other words, the decision was that conditions in the unionized section of the industry should be left as they have been. It was stated by officials of the manufacturers' group and the union that the decision was accepted by either side without reservation.

The decision pointed out that there is a spread between the wages paid in association mills as compared with those paid in the southern mills and also that there was some difference between labor costs in association mills and non-union full-fashioned plants. He said he did not believe either the non-union or the southern mills would increase wages proportionately in compliance with any decision that the arbitrator may have decided upon. The highly competitive condition which exists in the hosiery industry was pointed out with the statement being made he believed it would be impossible for association mills to pass on any wage increase to purchasers of their product. In other words, it was not considered possible to increase the selling price of hosiery manufacturers in union plants by an amount equal to any wage increase which might be awarded. The association mills have been operating generally at a loss during the last three years and only in some instances did they make a profit during the first six months of 1935.

Although no official statement was made, it is felt in the trade that the Rosenwald decision will furnish a guide for a considerable portion of the industry not in the association affected. Had an increase in wages been granted, it is felt that the non-union asociation of hosiery manufacturers, with which Berkshire and Apex are identified, would have fallen in line. From the National Association of Hosiery Manufacturers came a warning that the terms applying to double-shift footer operation, permitting the workers to earn 40-hour pay for a 36-hour week would have little effect on non-union and southern plants. Already the mills are operating on a 40-hour basis in the South in conformity with the association's recently stated views that they were entirely within their rights. A few in Pennsylvania have taken the same course since the N.R.A. decision made the 36-hour schedule obsolete.

One effect of the decision has been to cause the hosiery union to speed up its organization plans recently decided upon. One instance of this was seen September 12 when the plant of the Miller-Smith Hosiery Mills at Chattanooga and its other plant at Kingsport were affected by labor trouble. Several of the smaller full-fashioned establishments in Philadelphia have been picketed during the month with considerable disorder occurring at the Integrity Hosiery Mill plant which the union is endeavoring to bring into contractual relations.

Imports of Hosiery from Japan Increasing

Increasing imports of hosiery from Japan have been receiving more attention from manufacturers, although the habit has been in Washington circles when this question is brought up to point out how small the actual imports from that country were. The question involved is regarded by manufacturers not so much the quantities involved but rather the effect these have on the domestic market.

There is a popular priced men's hose known in the trade as a random sock with a wool appearance. It has been a big seller in recent years and is actually made of cotton with rayon flacks through it, giving it the desired random or wool effect. Domestic manufacturers have been selling this at around $1.00 to $1.05 a dozen which represents a close price, competition being keen. Some manufacturers

Stockings made with the best needles speak for themselves in clearer, sheerer fabrics, greater volume and a lower unit cost. Good business demands the best needles. That we are America's largest producers of Spring-Beard Needles and that nearly all manufacturers of fine quality full-fashioned stockings are standardized on Royersford Needles is a tribute to consistent satisfaction.

The prescription for better knitting

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have claimed that it actually cost them 84 cents a dozen to make this style, so that they were not getting rich at a price of $1.00 to $1.05 a dozen.

This same sock has been brought in from Japan with duty paid and delivered to the jobber-store at 80 cents a dozen. Buyers who were using American goods at the same time are naturally now buying the Japanese number and passing up the same style from manufacturers that they had been dealing with for a long time. The Japanese goods come in bales of 200 dozen and in bundles. Bundle packing is the accepted practice also of American manufacturers for this type merchandise. One hosiery agent has recently been allowed by his American manufacturer to offer a special lot of these at as low as 90 cents a dozen but he reports he found no buyers.

The latest import figures on hosiery compiled by the National Association show that not only are the imports steadily rising but that Japan is the principal, almost the sole factor in the situation. July imports amounted in cotton hosiery to 48,900 dozen pairs, comparing with 23,600 dozen for the same month a year ago. Of the July total this year, Japan accounted for more than 46,000 dozens which just about makes it the only factor in the field. Since January 1 this year imports of cotton hosiery have amounted to 332,511 dozens as compared with 269,585 for the seven months in 1934. Of the seven months total this year Japan supplied more than 250,000 dozens.

The point in this connection is not entirely in the size but more so in the concentration on particular numbers and the making of prices that undersell and supplant American goods in this market. The selling price on a popular large selling number, such as the random men's sock just mentioned, can be made by a comparatively small offering of goods at much lower prices, as in this case.

The Underwear Situation

Indications are men's underwear prices for the spring of 1936 will be no higher than the past season and possibly slightly cheaper. This is the information given by the pricing of lines that has been done so far in the initial selling for another season. There has been no formal opening to date but many manufacturers have their samples and prices and a still smaller number have been showing merchandise for about two weeks.

Quotations on the large selling numbers of men's athletic shirts are about 5 per cent lower than this past season in the lines of some manufacturers. These lines can be made so light as to be less than one and one-half pounds to the dozen, although the better quality usually weigh about two pounds to the dozen. On the better combed ribbed shirts the current market has ranged from $1.55 to $1.75 and $1.90 per dozen covering garments of good size and weighing on the average two pounds to the dozen. There are cheaper combed ribbed shirts of lighter weight as low as $1.30 a dozen.

The 5 per cent reduction heard in connection with next season's selling concerns mainly the cheaper number of ribbed shirts. This, however, is at variance with a number of large manufacturers who have not yet announced their action for another season. These operators declare that prices for spring 1936 should be at least as high as they were for spring 1935. They feel that the industry is making another mistake in planning to do business so far ahead as next spring on a lower level of prices.

Underwear manufacturers represented in the Underwear Institute at a recent meeting agreed upon a clause covering the intricate question of the process tax affecting these manufacturers. The clause finally agreed upon is as follows: "If and when the seller's cost is increased or decreased, because of the liability of seller's sources of supply for processing taxes levied under the Agricultural Adjustment act, as heretofore and after amended, is increased, decreased or terminated or because all such taxes heretofore and hereafter levied are invalidated by the final decision of the Supreme Court of the United States, prices on uninvoiced portions of order are subject to adjustment to the extent that seller's cost is so increased or decreased, but not to exceed an adjustment at a rate computed on the basis of the conversion factors set up by Treasury Decision 4433, approved May 10, 1934. In addition the seller will credit on the buyer's account an amount computed on the basis of such conversion factors, equivalent to any such pacts which, by reason of such invalidity, shall have been refunded to the seller or seller shall have been relieved from paying, with respect to any delivered portion of this order; provided that the buyer shall only be entitled to such credits with respect to delivered portions held as floor stocks as to which direct refunds from the government are not recoverable by the buyer after claims therefor have been duly and properly prepared and presented in accordance with the law."

Officials of the Underwear Institute in commenting on the process tax situation say it is apparent that a good part of the buying side of the underwear industry is placing confidence in sales spinners with whom they do business, to handle this matter, if the tax is finally annulled, in a way that will be satisfactory to all concerned. It is felt, in other words, that yarn sellers are not going to do any less than can be done under the circumstances.

From information now obtainable manufacturers that are showing samples of their new lines have adopted the policy of making prices based on present conditions. In other words, they are including the process tax charge in their quotations, since they can figure no other way with certainty. If that tax is eventually upset, manufacturers take it for granted that prices will have to be adjusted to the new situation. Those who buy yarns instead of spinning their own are mainly making contracts in yarns for a short time ahead, although within the last few days spinners of combed yarn reported that fear in connection with the process tax is much important and some forward buying is now being done.

Recent underwear business in fall lines in the principal selling market has been reported fair as far as men's ribs are concerned. Large mills are offering deliveries for fairly prompt shipments which reflects the amount of business on their books. A number of underwear mills are doing a good volume in ladies' balbriggan pajamas. Quotations on these garments range from $6.50 to $7.50 a dozen. This business has been steadily expanding and now amounts to a considerable item in giving occupation to knitting machines and underwear mills.

Lines of new polo shirts for the spring of 1936 are also being shown in the knit goods market. Prices so far quoted are a little changed from the present season in the same numbers but are made tentatively to be determined finally by action in connection with the process tax. A noteworthy feature of the new polo shirt lines is the fewer number of staple mesh styles which has had a long run. Some variation in knitting, however, has already been started toward coarse heavier stitches which idea has been carried over into new samples for next spring but with more variation. There will be fewer slide-fastener finishes and in fact some manufacturers figure the so-called zipper in polos will be almost extinct in another season.

Underwear Statistics

Production and shipments of cotton knit underwear by 309 manufacturers in July increased over the same month last year, but was under June, according to the Department of Commerce's report compiled in conjunction with the Underwear Institute. The output during July was 1,271,761 dozen garments, 1,385,227 in June and 1,195,859 n July, 1934. Shipments were 1,175,552 in July, 1,180,626 in June and 1,146,113 in July of last year.

Stocks in July amounted to 3,351,767 dozen which compares with 3,255,588 dozen in June and 3,759,064 in July, 1934. Orders on hand at the end of the month were 3,003,487 dozen compared with 3,913,921 at the end of June and 3,044,352 at the end of July, 1934. Production figures also show a continued drop in the production of mens heavy underwear and that shipments of men's heavy union suits declined compared with the same month in 1934. Shipments of men's and boys' athletic shirts registered a gain and also an increase over the same month last year.

Boys' heavy weight union suits of six pounds and over showed a gain in July, the total being 46,398 dozens compared with 43,928 in July, 1934. Infants' vests, wrappers and bands show an increase in production, the figures being 142,112 dozens compared with 101,392 dozens a year ago.

Death of J. P. Voorhees

One of the most widely known hosiery selling agents in the industry died September 13 when Joseph P. Voorhees passed away at his home in East Orange, N. J., at the age of 67 years. A large number of hosiery manufacturers, with a delegation of southern mill men, attended the funeral services on September 16. Mr. Voorhees was president of J. P. Voorhees & Sons, vice-president of Magnet Mills, and selling agent for Harriman Hosiery Mills, Rockwood Hosiery Mills and Philadelphia (Tenn.) Hosiery Mills.

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REVIEW OF THE YARN MARKET

Philadelphia, September 16, 1935.

COTTON yarn prices have been firmer than raw cotton during the last month, the raw material market being more than ½ cent lower while cotton yarns are either unchanged or ½ cent higher. At the same time demand for all types of yarns has improved noticeably, especially since the beginning of September although forward contracting is not being adopted by as many manufacturers as in usual active markets. Most buyers prefer to buy for their nearby needs only with forty-five to ninety days in advance usually being their limit.

However, there is a disposition for some manufacturers to buy further ahead than they have been holding to so rigidly in recent months. Examples of this are seen in contracts recently placed for single combed knitting counts for underwear use where they have specified deliveries that in extreme instances will run until next spring. Orders of this type are the first that have been reported by spinners for many months; formerly only a few weeks in advance was their limit.

More manufacturers have made their appearance in the market at the same time this month than in any for several so that several selling houses in the trade report that their billings in August were about 40 per cent larger than in the corresponding month a year ago and add that their billings so far in September are about the same percentage larger than September, 1934, to date. These show an inclination to expand more as the month passes. It is upon this creeping expansion of demand that spinners are predicting that they will have the best months of this year just ahead so far as volume goes.

A month ago bulk demand for carded yarns was coming from weaving establishments with 12s to 24s the most active counts, there being comparatively little interest in 30s. Sales of 20s two-ply warps were usually made at 30 cents for average and 31 cents for plush whereas 30s moved at 34½ cents for average and 35 cents to 35½ cents for plush quality. There have been only minor changes in these prices but fewer spinners are willing to sell at the lower ranges of prices. For instance, there are few spinners, buyers assert, that will listen to offers of 30 cents for 20s two-ply warps, demanding 30½ cents at this time.

During the early part of September a change in the type demand that spinners and dealers had been experiencing was apparent. Instead of more weaving plants being interested, spinners reported that demand from knitters increased materially and since that time many sellers reported that knitting interest was about equal to that coming from the weavers which held or increased its volume compared with a month ago. All trades are buying more in the weaving section although plush weavers have not been placing new orders in as large a volume as spinners expected this month, which should see coverage for the new models begin.

Spinners report that the large electrical concerns of the country which normally buy six months' supply of yarns at a time have not covered far ahead this year as yet. Yet spinners supplying them state their present contracts are being cleaned up more rapidly than the contracts specified, several taking October shipments a month ahead during the present month.

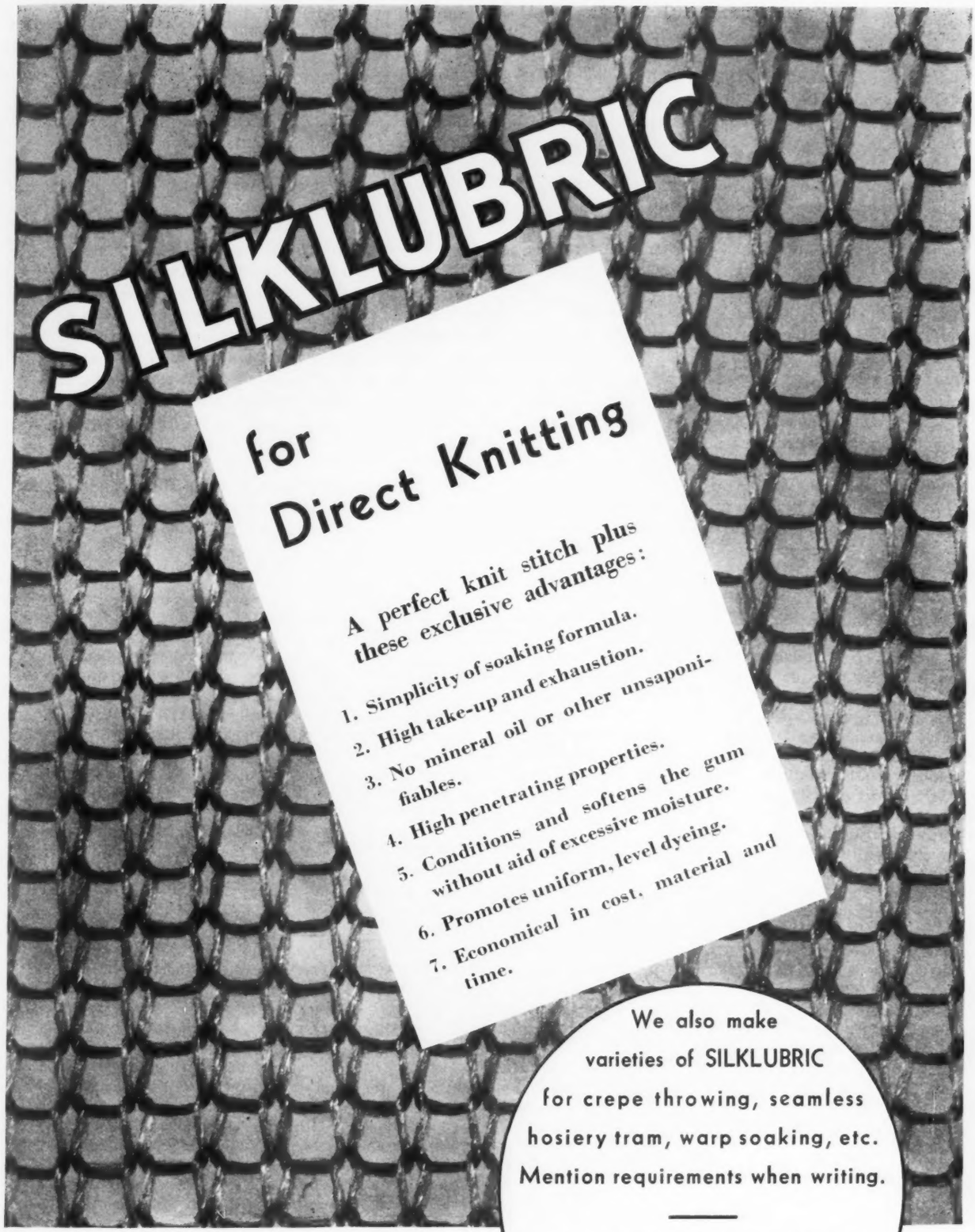
Manufacturers that are refusing to buy ahead cite advices that underwear and hosiery manufacturers have received from their trade associations that certain restrictive clauses relative to processing tax refunds be included in the contract for yarn, as a reason for conservative purchasing. Commission merchants here are selling yarn in most instances with the processing tax refund clause that was adopted by the cotton yarn spinning trade at the meeting held in Charlotte on August 5, which gives buyers of yarn 90-day protection on undelivered balances of the contract. There has been in the last couple of weeks a considerable volume of yarns sold for delivery a number of months ahead on this basis.

On the other hand, there are quite a few manufacturers that refuse to buy on the basis of the Charlotte clause and demand before placing the order that the spinner or dealer meet their individual demands as to refund of processing tax if and when this is declared unconstitutional by the Supreme Court. However, the trade is not paying nearly so much attention to this factor as it was a month ago, it appearing that as manufacturers book more business they are less inclined to let this matter stand in the way. Spinners feel that this matter is receiving more attention than it justifies because most believe that when a change in the processing tax develops rules which are fair to both yarn supplier and consumer will be adopted. In other words, it is felt that adequate protection will be given to both buyer and seller.

At the beginning of this month it was stated that spinners' total unsold stocks had fallen below 4,500,000 pounds which includes all the odds and ends, so that the amount of spinners' stocks actually available to the trade is the smallest that veterans in the sales yarn trade can recall for a great many years. Billings have been averaging between 3,500,000 and 4,000,000 pounds weekly, which indicates that spinners have on hand approximately only a week's supply of carded yarn in the popular numbers and data in the combed section of the market indicate a similar condition.

Entering in September, unfilled orders had dropped to around 30,000,000 pounds of which the knitting trades accounted for about 40 per cent and the weavers some slightly over 50 per cent. At the end of August the electrical trade had less than 1,500,000 pounds of white carded yarn due them on existing contracts.

One of the outstanding developments during the last four weeks has been the rapid expansion in the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poundage of single combed yarn that is being purchased by the underwear manufacturers. Some of the largest orders in the market have been from this group and several have called for delivery into the spring of 1936. These manufacturers in many instances are using combed where they formerly used carded due to the fact that there is only a difference of a few cents between a high class carded yarn and combed, whereas the difference is usually considerably more and at times has varied up to 10 cents.

Although a few manufacturers are postponing forward buying, fearing that prices may be lower, a majority in the trade are predicting that even though raw cotton drops slightly from its present level, yarn prices will hold steady or possibly advance. This prediction is based on the well cleaned-up condition of the yarn and goods markets from manufacturers down to retailers, all reporting exceptional small stocks. With this condition coming at the same time that retail sales are improving leads them to look for a firm yarn market.

Although there is a good demand for mercerized yarns from manufacturers of infants' hosiery and children's lines, with dyed yarns usually specified from these trades, demand for mercerized counts has not improved as expected nor in comparison with that witnessed this month in carded and combed. While leading mercerizers are quoting on the basis of 70 cents for 60s two-ply knitters report that during the last two weeks they have been able to place larger contracts on the basis of 67 cents for this count and smaller orders around 68 cents. Interest in these yarns is now showing improvement from knitters of full fashioned women's hosiery as many of these mills have booked a good volume of fall and holiday business, just prior to the advance in full fashioned hosiery which came around the first of this month, due to the continuous strength in raw silk.

Worsted yarn spinners, especially those specializing in yarns for the knitting trades, have been doing an exceptionally large business during the last month. Most of these spinners are well sold ahead until late this year with orders from manufacturers of sweaters and hand knitting yarns. Prices have advanced 2½ cents to 5 cents during the last month with 2-20s, 50s, English being around $1.00 now compared with a 1935 low of 72½ to 75 cents. Notwithstanding this sharp advance, worsted spinners do not find any amount of switching from worsted into cotton.

July Hosiery Sales Exceed Last Year's by ½ Million Dozen

Shipments of all types of hosiery from American mills during July of this year, amounted to about 7,000,000 dozen pairs as compared with less than 6,500,000 dozen pairs for the corresponding month of last year, according to the monthly Statistical Bulletin of the National Association of Hosiery Manufacturers covering that month. Production for the month was 7,500,000 as compared with 6,670,000 dozen pairs a year ago.

Shipments of full-fashioned hosiery during the month were just under 2,000,000 dozen pairs, with shipments of women's seamless hosiery at 621,000, men's hosiery at 2,350,000, children's goods at 455,000 and other types at something less than 1,500,000 dozen pairs. Production of full-fashioned was 2,250,000 dozen pairs with women's seamless stockings at 672,000, men's hosiery at 2,600,000, children's goods at 470,000 and other classifications totalling approximately 1,500,000 dozen pairs.

The July figures bring the total shipments for 1935 to date up to 59,700,000 dozen pairs as compared with 59,370,000 dozen pairs for the first seven months of last year. Production for the first seven months of this year was 62,160,000 dozen pairs as compared with 62,023,000 a year ago. Shipments for the seven months were divided among the various groups with full-fashioned accounting for 18,000,000 dozen pairs, women's seamless just under 6,000,000, men's 18,000,000, children's goods approximately 5,000,000 and other classifications slightly over 12,000,000 dozen pairs. Production was divided among them with full-fashioned accounting for nearly 20,000,000 dozen pairs, women's seamless stockings for 6,000,000, men's half hose for 18,500,000, children's goods 4,000,000 and other types 13,500,000 dozen pairs.

Inventories Seasonally Advanced

With production in excess of shipments, as is usually the case in July, there was an increase in month-end inventories as compared with the previous month. Total stocks on hand as of July 31 this year were 20,000,000 dozen pairs as compared with 19,000,000 dozen pairs on July 31, 1934. It is recognized that during the three months that have elapsed since the passing of NRA, much buying has been withheld awaiting evidence as to whether costs and prices were likely to change materially. This situation will be necessarily offset between now and the holidays by increased buying which it is expected will fully absorb any excess stocks which may have accumulated during the past ninety days.

Turnover of stocks for the twelve months ended July 31 is compared with that for the similar period of a year ago. This reveals that the rate of turnover for all types was 5.6 times per year as compared with a rate of 5.9 times during the previous corresponding period. A marked improvement is shown in the turnover rate for full-fashioned hosiery which was 7.1 for the twelve months ended this last July as compared with 6.5 for the previous period. Seamless hosiery, on the other hand, turned over at the rate of 5.1 times as compared with an earlier rate of 5.7.

Incorporated in this month's Bulletin, is a chart showing the relationship between the prices of raw silk and the prices at which manufacturers have been selling their silk stockings. Where prices of raw silk declined, the price of stockings followed the downward trend, while every advance in the price of raw silk was followed either by an advance in the price of stockings, or (in the cases of minor advance) by a checking of the downward trend in stocking prices.

Another interesting feature of this chart is the revelation that since the summer of 1933 when codes first came into effect, there has been a wider gap between the cost of silk and the price of the finished product. This reflects the increased labor cost produced by the code, which increase has been maintained by the manufacturers since the passing of NRA through the retention of the labor standards built up during that era. From this chart, the Bulletin draws the inference, now being borne out by fact, that prices of silk hosiery cannot avoid being higher this fall than they were during the summer because of the marked increase in the cost of raw silk that has developed over the past three months.

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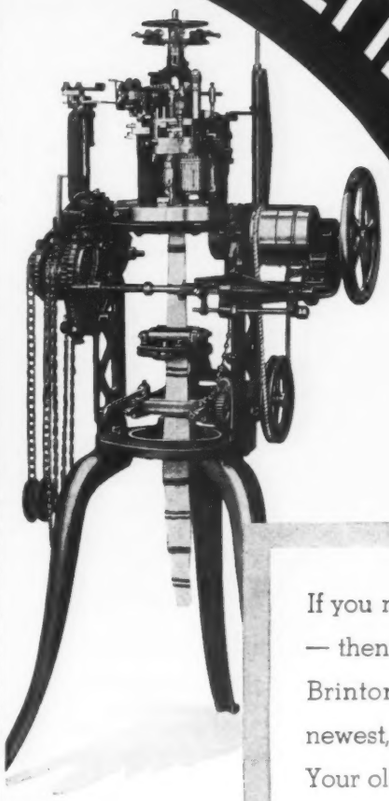

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Slashing-Weaving Discussion at Atlanta

(Continued from page 51.)

12s, he reported 14,141, 14,052 and 14,181 yards, an average of from .4 to 1.3 per cent. "Most of our sets will run between .5 and .75 per cent stretch," he said. "There are a great many causes: the tension you get on the section beams, the tension on the yarn in front of the slasher; and whether you have positive drive on the cylinder."

Percentage Moisture and Solids Left in Yarn

The last slashing question was, "What percentage of moisture and solids should be left for best weaving results in warps? State yarn number, whether white or colored, construction of goods, etc."

Frank H. Cooper, assistant superintendent, Fulton Bag & Cotton Mills, Atlanta, reported that a recent test had showed that 7.8 per cent of moisture and 9.67 per cent solids were left in the yarn; however, it was explained, this did not mean 17.47 added weight, as the yarn contained 6 per cent moisture at the back of the slasher. Mr. Cooper said his figures were arrived at by taking the weight of the beams before and after sizing, and also checking from the weight of the ingredients used. He pointed out that there is between 9 and 10 per cent loss in the sizing ingredients. J. I. Alford reported leaving 6½ to 7½ per cent moisture, with 12½ per cent added size, on 30s, 1,980 ends. C. S. Scofield, overseer of dressing, Muscogee Mfg. Company, reported 6½ to 7 per cent moisture and 9½ per cent solids, on 8-ounce ticking. H. L. Dillard, superintendent, Eagle & Phenix Mills, Columbus, Ga., reported 6 to 7 per cent moisture, and 12 per cent added size.

Weaving Discussion

Reducing Weave Room Temperature

The meeting was then turned over to Allen Jones, who led the discussion on weaving. The first question was:

"What are the best methods for holding weave room temperature to a minimum during extremely hot weather—manipulation of windows, top opening or bottom opening; temperature of water in humidifiers; automatic controlled ventilating system?"

J. C. Edwards first discussed this, describing the system of conditioning installed in the weave room of the Peerless Cotton Mills, Thomaston, Ga. Mr. Edwards said in this weave room there was a very disagreeable condition, that, with a relative humidity of 85 per cent the temperature in hot weather would sometimes go up to 105 degrees. He said the mill installed two fans, each using about a 10-hp. motor, and ducts were put throughout the room. Part of the windows were equipped with louvres, and a pressure of 1½ to 2 pounds, to prevent leakage from outside, was carried. "They have done a wonderfully fine job," said Mr. Edwards. "They have reduced the temperature quite a bit.

"We have a bad condition in our twister department," Mr. Edwards continued. "Sometimes the temperature there gets up to 105 degrees, and for several reasons we cannot run more than about 50 per cent humidity. Now, we have blocked off 35 frames and put in one of these same conditioning units over them and hope to be able to lower our temperature by 8 to 10 degrees."

Ellis Whitehead, reporting for Pepperell Mfg. Company, Lindale, stated that the second hand is the man to handle the manipulation of windows; that their bottom windows are nailed tight, and the top windows manipulated; that they find a lower temperature can be obtained without any appreciable reduction in humidity by opening the windows in the direction opposite to that in which the wind is blowing.

Taking up the matter of the temperature of the humidifier water, Mr. Whitehead said that "the purpose of humidifying is to increase the surface tension of the water so it may evaporate more quickly, and raising the temperature will naturally cause it to evaporate more quickly; in evaporating it takes up more heat from the room. Theoretically, the higher the temperature of the water, up to a certain point, the more rapidly it will evaporate and the more heat it will take out." He then reported a test made in one of their weave rooms the latter part of August. For several days, the temperature of the humidifier water was 107.4 degrees, with an outside temperature of 79.2 degrees—and the resulting room temperature was 81.7 degrees. For the next few days, the temperature of the water was reduced to 73.6 degrees, and with an outside temperature of 75.4 degrees, the room temperature was 80.8 degrees. No record was taken of the humidity outside during these tests.

J. C. Edwards declared that in his opinion, barometric pressure is an important item in connection with conditioning; that "the weakest point of all controls is that the manufacturers never take barometric pressure into consideration."

Harry H. Purvis, in discussing a small spinning room located in the basement, reported lowering the temperature by the installation of fans. He added that on the main floor, they have ample humidifier capacity, and two monitors, and that his weave room is usually 3 or 4 degrees cooler than the rest of the mill. Frank L. Asbury stated that he puts steam in his humidifier water in the summer-time; that his water supply is an artesian well 400 feet deep; and that he does not believe heating the water makes the room warmer.

D. D. Quillian, superintendent, Athens (Ga.) Mfg. Company, told of an experience in a twister room with an 18-foot ceiling, in which the roof rotted and the roof and ceiling were replaced. He said that previously the temperature had been excessive, but that in making the repairs, they had put 1-inch of Celotex insulation under a new tar and gravel roof, instead of using a tin roof, and this resulted in lowering the average temperature in the room by about 10 degrees with the same humidity. Erwin Lehmann, superintendent, Langdale Mill, reported the reduction of the temperature in a spinning room by the use of similar roof insulation.

As to method of opening windows, practically ev-

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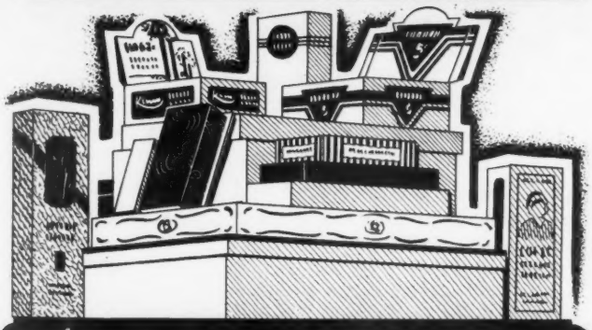

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eryone reported opening windows at the top instead of the bottom—some doing both.

Figures on Shuttle Life

"What is the average life of your shuttles, expressed in loom hours?" was next asked.

On 39-inch looms, making 182 p.p.m., on 2.85-yard, 96x64, Mr. Longley of Dixie reported an average shuttle life of 3,200 loom hours. Johnston McCorkle of Hartwell reported an average life of 7,200 loom hours on shuttles on 40-inch looms on sheeting, 160 p.p.m. He added that his looms had recently been overhauled. W. A. Powell, overseer weaving, Chicopee, reported 5,684 loom hours on shuttles on 40-inch, 28x24, looms moking 175 p.p.m. J. C. Platt reported an average life of 9 months, 80 hours per week, on 90-inch looms making 100 picks. J. W. Balentine stated that the average of a group of 10 mills was .85 of a shuttle per loom year, running 80 hours per week. H. G. Hodge, overseer weaving, Muscogee Mfg. Co., reported an average life of 4,600 loom hours for shuttles on colored work.

T. H. Pennington, overseer weaving, The Trion (Ga.) Company, was called upon, and said his experience is that shuttles will last anywhere from 30 minutes to 14 months each; adding that he has 2,358 looms, mostly E model with some X models, and that last year he bought—and used—2,200 shuttles.

Distinguishing between Day and Night Cloth

"What method do you use for distinguishing the cloth woven by first and second shift weavers?" was next asked. V. J. Thompson uses colored string—red for one shift, green for the other—which is woven in by each weaver, and removed by the head inspector. He said this is satisfactory unless weavers are changed, and then, since it may be some time before the cloth reaches the head inspector, it might be difficult to trace. George E. Glenn, of Lindale, reported the same practice, except that his first inspection immediately follows the weaving. M. D. Collins, overseer weaving, Eagle & Phenix Mills, reported the use of strings, which, instead of being woven in, are taken down through the shed and back again. On looms equipped with pick clocks, and the weavers paid by the pick; on the others, the cloth equally divided if the weavers work the same number of hours. Julian M. Longley stamps D and N on the cloth, and it is measured by counters in the cloth room; he has two counters, one which is re-set on each set, and another which runs straight through the roll. He said he checks these counters regularly, and keeps one spare counter "on the road" being repaired to make certain of accurate measurement at all times.

W. L. Jackson reported that at New Holland, the weavers have separate numbers, and different colored pencils are used for the two shifts, and that the weaver's number is marked on the back of the cloth.

Methods of Oiling Looms

"How do you oil looms? Do you use red oil or compounded oil or both? When and where do you use either?" This was the next question.

"We use a compounded oil," reported E. H. Rogers, of Fulton Bag & Cotton Mills, "and also we have applied quite a number of pressure fittings on various parts of the loom, particularly the sand rolls. We have a regular schedule like most mills. We have the overseers occasionally ask the oilers to show *them* how to oil the looms." A. C. Smith, of Monroe, stated they have one man responsible for their loom oiling. Another man reported that his loom fixers do their oiling; and the warpmen clean and oil the looms thoroughly when the warp runs out. He uses a compounded oil, as does Alton Hogan, of Canton, who reported one man responsible for the oiling on each shift.

Erwin Lehmann, Langdale Mill, reported the use of Alemite and Zerk fittings on his looms with which the lubrication is carried out on a regular schedule, with one man responsible. W. L. Whisnant of Manchester reported having a man responsible for the oiling on different blocks of looms. He has an "OK" tag, including certification of lubrication, which the fixer must sign, when warps are changed.

"Our oilers get around about once a week and oil the main working parts," reported A. D. Elliott, "and when the warp is out the section man oils it thoroughly. We use red oil and compounded oil. The X Models have Zerk fittings and we use grease on these."

"We are using compounded oil," reported M. D. Collins. "Our warps run about two or three weeks. When a warp runs out, we have all oil holes gouged out, and the looms oiled, and every now and then the second hand inspects this work thoroughly. O. D. Grimes, Jr., of Athens, reported oiling moving parts once a week, with thorough cleaning and oiling when the warps run out. Frank L. Asbury, of LaGrange, stated that he is gradually applying pressure fittings on his looms; that now he has regular oilers, but within the past two or three months, in one of his weave rooms, has started the practice of having the loom fixers do their own oiling, on the theory that they will be more particular about it since they are responsible for keeping up the looms.

There was next a brief discussion of cleaning looms with compressed air, with practically everyone agreeing that the use of compressed air inevitably brings some oil on the warps and cloth on the loom being cleaned, as well as adjacent looms—unless utmost care is used.

Streaky Effect in High Pick Goods

The final question was "What causes a streaky effect (filling bars) in high pick goods at the filling change?"

Mr. Asbury said that on high-pick moleskins this is caused by the difference in tension on the filling on the bobbin in the shuttle before and after the change. Mr. Platt said, "I agree with Mr. Asbury; I think it is the extreme difference between the filling tension in the bobbin emptying and the full one. One cause has been the tendency to use longer bobbins. Harry Purvis reported the same trouble on low pick goods, from the beginning to the end of the bobbin, causing the cloth to pull in, maybe a ½ inch on 36-inch goods. Mr. Pennington recommended running without temple

burrs to prevent these "nicked selvages." R. J. Jennings, discussing the original question, mentioned that sometimes this might be caused by the bunch builders on the spinning frame getting out of whack, causing the filling to pile up.

This discussion concluded the meeting. It was announced the next meeting, to discuss carding and spinning, will be held in March 1936.

Additional Timely News Items with a Textile Slant

Walker Engineering Co.

Walker Engineering Co., Inc., has been organized to take over the business of Jerry W. Walker, who formerly traded as Walker Engineering & Machinery Co., in Gastonia, N. C. The new organization offers a complete textile engineering service including appraisals, moving and erecting textile machinery, and the buying and selling of mill machinery, equipment and supplies. Jerry W. Walker is president; D. E. Walker is vice-president, and John T. Houren, secretary and treasurer.

R. J. McGee, trustee for Mortimer Mills, has joined the sales force of Walker Engineering Co., Inc. He has had experience as a practical mill man and will work especially in connection with the sale of used textile machinery and supplies and the estimating of moving and overhauling operations.

Booklet on SKF Bearings

More than 11,000,000 SKF bearings in transmission equipment are in use today, it is stated by a 32-page catalog describing ball and roller bearing transmission appliances just issued by SKF Industries, Front St. & Erie Ave., Philadelphia, Pa. The book shows load ratings and diagrams of mountings for SKF ball and roller bearings, pillow blocks, flanged housings, take-up boxes, post and drop hangers, floor stands, replace boxes, locknuts and lock washers. Seven pages are devoted to a discussion of bearing problems, aids in the selection of ball and roller bearings, and dimensional and load data.

1935 Textile Blue Book

The new edition of Davison's Textile Blue Book has just been issued as of July 31, 1935. This is the 70th year of publication. The "Blue Book" is a complete annual register of the textile industry. It lists each textile concern, with full directory information concerning each, and contains revised maps showing towns where there are textile plants. Cotton mills are classified according to product manufactured. There are lists of textile associations, raw cotton merchants, cotton warehouses with insurance ratings, mills with dyehouses, classified list of dyers and finishers, in addition to the regular listing of all types of textile manufacturing, selling, converting concerns, etc.

The deluxe edition, 1,500 pages, is priced at $7.50; the handy edition, carrying everything except the classified directory of mills and a buyer's guide, is $5.00. A salesmen's directory, in flexible covers, pocket size, gives full reports of all mills, dyers, finishers and bleachers arranged alphabetically, price, $4.00. Davison Publishing Company, 50 Union Square, New York City, are the publishers.

Crane Company Moves Greenville Office

Crane Company, manufacturers of valves, fittings, traps and plumbing materials, have moved their Greenville, S. C., branch to larger quarters on West McBee Street, in the center of the city and in a better location. The building has been remodeled to present a better display of products and render better service.

Carolina Yarn Ass'n to Meet at Pinehurst, Nov. 1 and 2

The annual golf tournament of the Carolina Yarn Association will be held at the Carolina Inn, Pinehurst, N. C., on Friday and Saturday, November 1 and 2, it is announced by K. C. Loughlin, 1106 First National Bank Bldg., Charlotte, N. C., secretary of the association. Elaborate plans have been formulated to take care of an expected 500 members and guests of the textile industry. Besides the regular golf tournament, other sports such as trap shooting, skeet shooting, horseback riding, etc., are available at Pinehurst and will be opened to all members and guests attending the tournament. Invitations will be mailed out around October 10.

Conference of Deans of Textile Schools

The third semi-annual conference participated in by the deans of textile schools located in the South and New England, has been called for Tuesday, Wednesday and Thursday, October 22, 23 and 24, at Stockbridge, Mass.

This series of conferences is sponsored by the Textile Foundation as part of its program of co-operation with the textile schools. The broad objective is to develop curricula and methods which will better qualify graduates to meet the demands of everchanging conditions in the textile industries.

The deans who have already indicated their intention to be present are: O. V. Adams, Texas Technological College, Lubbock, Texas; J. H. Bagley, Texas Textile School, College Station, Texas; E. W. Camp, Alabama Polytechnic Institute, Auburn, Ala.; Charles H. Eames, Lowell Textile Institute, Lowell, Mass.; W. D. Fales, Rhode Island School of Design, Providence, R. I.; E. W. France, Philadelphia Textile School, Philadelphia, Penna.; J. H. Hanford, New Bedford Textile School, New Bedford, Mass.; C. A. Jones, A. French Textile School, Georgia School of Technology, Atlanta, Georgia; Thomas Nelson, North Carolina State College, Raleigh, N. C.; Henry W. Nichols, Bradford-Durfee Textile School, Fall River, Mass.; and H. H. Willis, Clemson Agricultural College, Clemson, S. C.

Cotton Chart

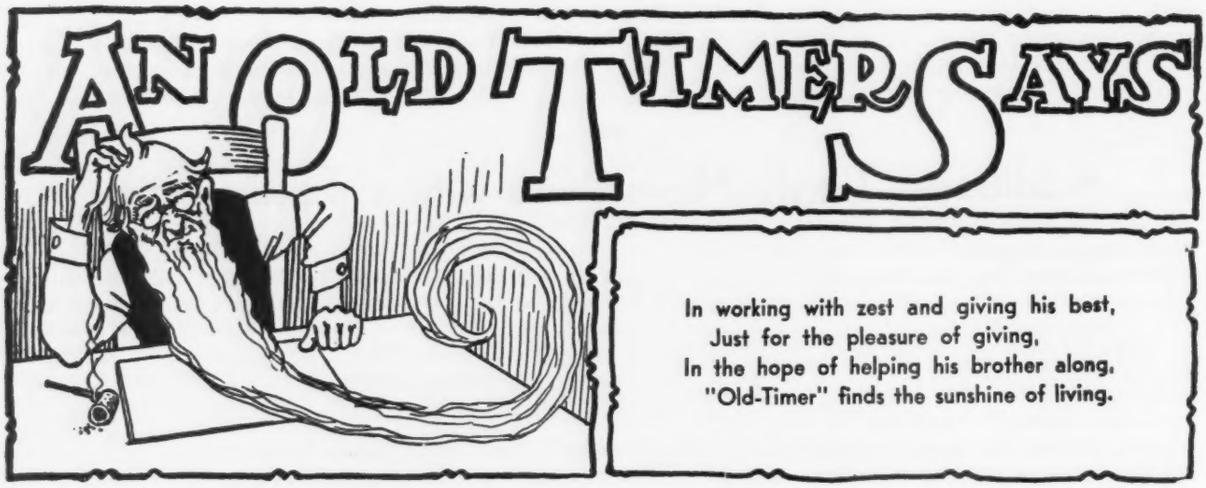
The annual cotton chart of Chunilal Mehta & Co., 51 Marwarix Bazar, Bombay, India, covering 1934-1935, has been issued, representing the eleventh year of publication. Fluctuations in price over the period covered, with crop statistics on the Indian as well as the American crop, with ten-year comparative acreages, crop and field figures for Indian cotton, are included.

Throwster Tints

The United States Testing Company, Hoboken, N. J., has a new line of Certified Throwster Tints ready, composed of 40 distinctive tints for silk and 24 for rayon. It is distributing also an interesting leaflet of instructions for the use of these tints, with information for the proper preparation of tints and combination tints listed for right and left twist yarns, including combinations for use under Cooper-Hewitt (General Electric Vapor Lamp Company) lights.

Byers Now Makes Steel Pipe

The A. M. Byers Company, Pittsburgh, Pa., have announced that they will now manufacture steel pipe in addition to the present line of wrought iron products. It will be made in the company's modern pipe mills under the same executive supervision as exists on wrought iron pipe.


AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

Ever Think About YOUR Peak Load?

All engines, motors, power plants are designed to carry peak loads; that is, they must be large enough, have capacity enough to carry a load which is more than the average or regular load, so when the emergency arises they go right along without disrupting the general layout.

How about you in your work? Are you ready for any emergency which may arise? Do you carry on smoothly without giving the boss any cause for worry? If not, then you are not in line for promotion.

* * *

Some people criticize because of a mania of opposition; some because of jealousy and others have such a darn mean disposition they can't help it.

* * *

Take no risks and you'll never amount to much.

The average man does not realize that after he gains promotion and is placed in charge of other people, it is his duty to spread his brains over and through that group of people. The man who can do that tactfully and retain the respect, loyalty and co-operation of those under him will go far in the business world. He was promoted because he had brains and ambition enough to do his work better than his co-workers—then if he can teach those under him to do as well as he did—

No need to reason further—

* * *

"Just watch his dust."

Sow thoughts and you will reap actions.

* * *

Nothing has ever been accomplished without first being conceived in some person's imagination. Dream brother, dream, then start in with the determination to make your dream come true.

* * *

The man is fortunate indeed who can express his own ideas without causing others to feel that he is trying to force those ideas upon them.

* * *

It takes a big man to give credit where credit is due. It is such a temptation for him to let it appear that *he* had a little something to do with it.

In interviewing subordinates, if you will use discretion and put them at their ease, you will accomplish much more than you expected.

* * *

When have you added another name to your (mental) list of friends? No danger of having too many, so why not make a mental note to see if you can add one in the next 30 days?

* * *

Maintaining discipline without having to resort to authority, to my mind, is one of the highest qualities any foreman, overseer, superintendent or manager can possess.

* * *

Success is not like a four-leaf clover. You can't just happen up on it. It takes years of preparation and an earnest desire to carry through your life's ambition.

* * *

It is so easy to make a start, but it takes a man, a man with backbone and will power, to carry out his intentions.

* * *

You know all eggs will hatch if sat on long enough—the same with your troubles. Get rid of them and get them out of your mind as soon as possible before they multiply.

* * *

Why envy successful men? *Be* one.

* * *

Take any kind of "dope" or stimulant at exactly the same time every day, for several months, and you will form a bad habit.

Select a time each day to concentrate your thoughts on your work, in an effort to make some improvement over your regular routine duties, and within a reasonable time you will have formed a *good habit.*

* * *

If you are not man enough; not a good manager enough, to save part of your salary, what do you suppose your employer thinks about your ability to save for him when he is trusting you with thousands of dollars worth of supplies?

We are now offering to the trade Sulphonated Fatty Alcohols known as

Laurel Supersulphonate Powders and Gels

[U.S. Patent Applied for]

These products have exceptionally high stability to acids and alkalies and are lime-resistant. We recommend these products for scouring and penetrating all fibers—wool, silk, cotton, rayon—yarns and piece goods. Write for information and samples.

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Wm. H. Bertolet & Sons

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DETERGENT PRODUCTS CORPORATION

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Economize With Our Low Priced Penetrator

KALPINOL 52A

It is an ideal penetrator for general wetting-out purposes, and it will save you money.

For level dyeing use HYDROXY PENETRATORS. They have been developed and are used extensively for penetration and level dyeing in Raw Stock, Beam Dyeing, Package Dyeing, Skein, Hosiery and Piece Dyeing. A small amount in the dye bath saves time and labor.

To assure beautiful dull finish, spot-proof water repellent merchandise—use HYDROXY K7—the best one bath waterproof obtainable. Ideal for cotton, also for Rayon, Acetate, Wool and Piece goods. Also for Yarns. It makes a stable emulsion.

Use PEROXOL to improve your peroxide bleach. It cleanses the fabric and opens the fibres so as to permit the bleach liquor to penetrate. It thereby produces a better and more even white. Add Peroxol direct to the Bleach Bath or use it in the wetting out bath before bleaching.

The KALI Mfg. Co.

Manufacturing Chemists

1410 N. Front Street, Phila., Pa.

1 barrel of Caro-Gant replaces 3 barrels of Sizing Compound

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Rayon Sizings
Cotton Warp Dressing

HERE is the most efficient as well as economical and convenient Cotton-Warp Dressing that will assure you cleaner looms, greater production and higher quality fabrics.

Being 100% pure, with no water or inert vehicles, it goes further—1 barrel of Caro-Gant will replace 3 barrels of sizing compound. Caro-Gant is the most concentrated, effective and economical adhesive-colloid and softener yet developed for sizing of Cotton Warps.

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We maintain in our Technical Service Department a staff of experts in Alkali. These men have studied the problems, and know the particular and individual needs of the various industries using alkali. If you have a problem affected by soda ash, caustic soda or any other alkali that is causing you anxiety, we will be pleased to have you correspond with SOLVAY SALES CORPORATION direct, or with the nearest branch office or distributor. We will, if necessary, gladly send a man who has specialized in your problem to assist you in working out a satisfactory solution.

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Minerol Treatments provide better sanitary conditions, reduce dust and "fly" • lessen the fire hazard • less slugs • less ends down.

SPRAY MINEROL.. for better reactions to Dyeing, Bleaching and Mercerizing.

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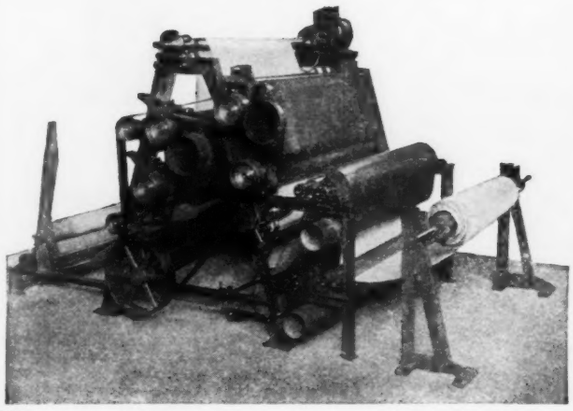

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We will gladly outline the equipment you need and facilitate its placing.

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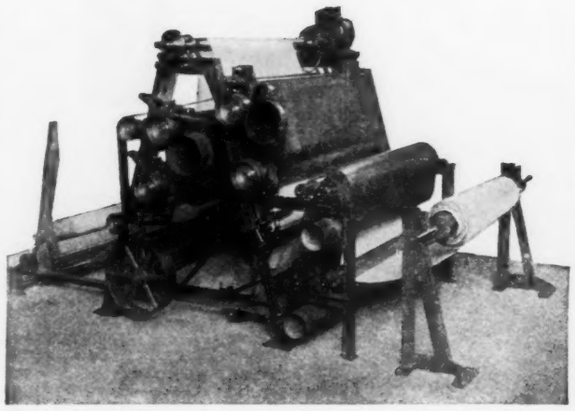

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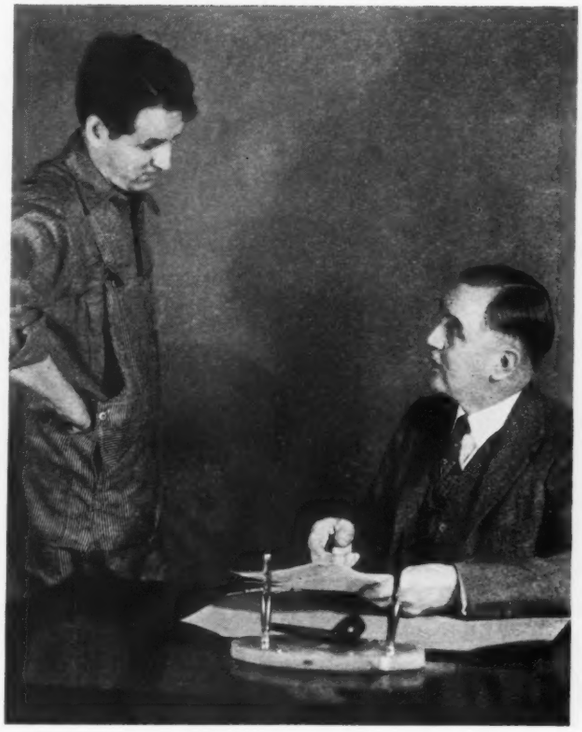

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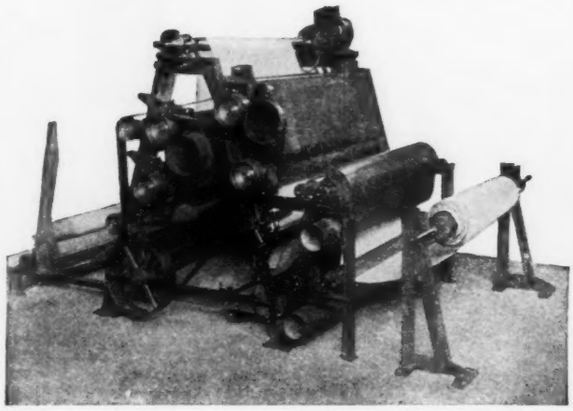

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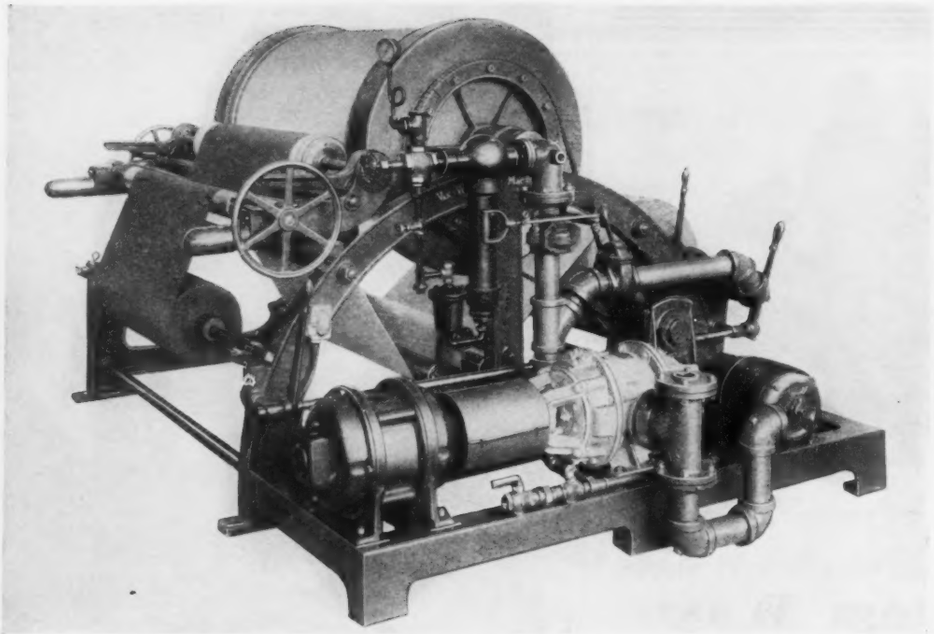

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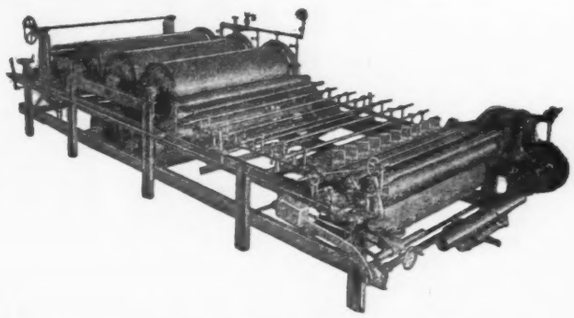

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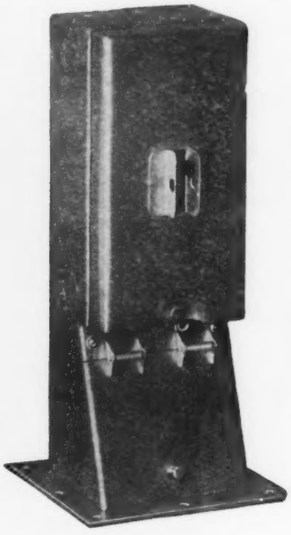

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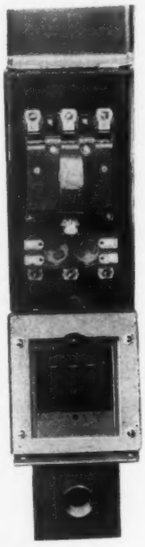
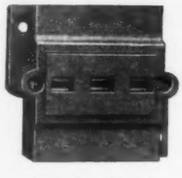
Above Floor Type



Switch and Test Block Mounted in Type No. SCUS--1 Pedestal (all-in-one)



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To keep an accurate check on power consumption of machines. Simply constructed but highly efficient. Can be installed in any pedestal or in separate box. For small motors 1-2 to 5Hp, 220V, or 1-2 to 10Hp, 660v.

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Switch case and pedestal are made in one unit, eliminating bolts, nuts and labor, for mounting the loom switch, making a better and more rigid unit.

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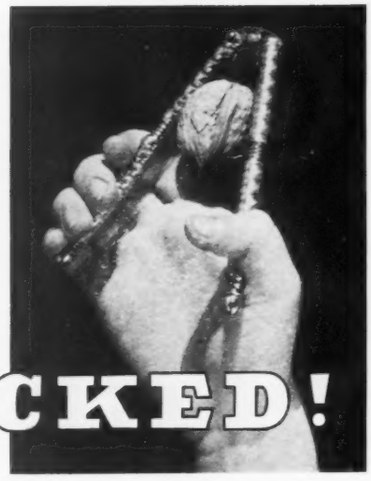

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Modern mill cleanliness requires a floor cleanliness and beauty that no hand methods can achieve—any more than hand spinning or weaving can meet today's production requirements.

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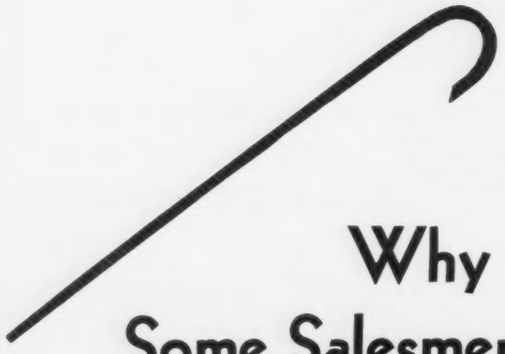

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140 Lbs. 60/40—1/50 French Worsted
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also these mercerized yarns

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10% under market price

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as overseer or second hand in preparation department. Experience in spinning, Twisting, Spooling, Warping, Winding and Quilling Cotton and Rayon. Address Box 143, care COTTON, Grant Bldg., Atlanta, Ga.

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Probably you, like many other mills, have some equipment which you have taken out or are thinking of taking out and replacing with new equipment.

Why not dispose of this second-hand machinery at a profit? COTTON has the largest circulation among the textile mills of the United States of any textile publication.

You Can Sell Your Second-Hand Equipment

to these mills through advertising in the "Trading Post Exchange" page of COTTON. Such advertising produces results at small cost—why not try it out and get that second-hand equipment off your hands in a profitable way? Tell us what you have for sale and let us insert an advertisement.

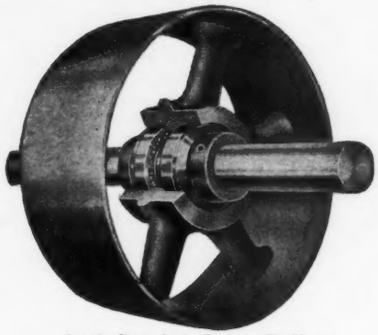
COTTON
GRANT BLDG. ATLANTA, GA.

GOLDENS' TRANSMISSION EQUIPMENT

Blower and Fan Bearings

Equipped With

FAFNIR BALL BEARINGS



Ball Bearing Loose Pulley

Helps to Reduce Power Costs

The combination of Goldens' 58 years' experience and Fafnir ball bearing efficiency assure transmission equipment that can be depended upon for longer life and lower power costs.
Write for catalogue No. 11 and prices on Goldens' Drop Hangers; Post Hangers; Pillow Blocks; Loose Pulleys; Blower and Fan Boxes; Flange and Cartridge Units; Spinning and Twister Frame Boxes; or any special application.

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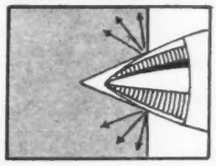
Columbus, Georgia

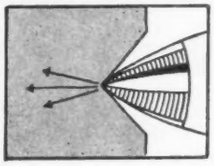
Pulleys	Continuous Dyeing Machines
Rope Sheaves	Raw Stock Dyeing Machines
V-Belt Sheaves	Cloth Inspecting Machines
Size Kettles	Cotton Mill Castings

so the 50 TYPE PICKER *lasts longer!*

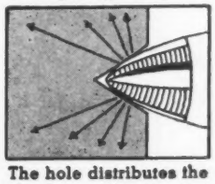
What happens when the hole is too small.



What happens when the hole is too shallow.



What happens when it is shaped by machine.



The hole distributes the shock over the greatest area.

This is the only picker you can get which has a machine-cut shuttle point hole . . . That's why it outlives other pickers 2 to 1.

Because the patented "Life Saver" hole is shaped to accommodate the shuttle point, it takes the shock where the picker is strongest. Per million blows, the 50 Type Picker is the cheapest.

Easiest to Install

Loom fixers prefer them because there's no cutting to do (no danger of knife slippage) . . . they fit right onto the stick . . . and replacements are fewer.

Delivery with Telegraphic Speed

Your local Western Union office will give you—without charge—the name of the distributor nearest you who carries 50 Type Pickers.

GRATON AND KNIGHT

Graton+Knight's 50 TYPE PICKER

THE PICKER WITH THE LIFE · SAVER HOLE

THE GRATON & KNIGHT CO.
WORCESTER, MASS.

2156

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Veeder-Root pick counters are BUILT RIGHT

at the thousand and one places a counter can be wrong

Every one of the separate parts in a Veeder-Root Pick Counter has a job to do. To do that job, each one has to be *right*—in material, in dimensions, in finish. *One* slip-up in *one* specification of *one part* would be *too many*. That's why you can expect the Veeder-Root standard of performance *only* from a Veeder-Root Pick Counter.

Veeder-Root Pick Counters are built *right* at the 1001 places a counter can be *wrong*. Veeder-Root engineers designed, built, and installed the first pick counter 28 years ago. They have made every important development and refinement in pick counters since then. They *know* what a pick counter has to have to give you trouble-free performance.

Call the nearest Veeder-Root office. Have a representative call and show you why there are over 425,000 Veeder-Root Pick Counters recording loom production throughout the world . . . why Veeder-Root can back each pick counter with a five-year guarantee.

VEEDER ROOT INC.

HARTFORD, CONN. BOSTON • PHILADELPHIA • MONTREAL • LONDON GREENVILLE, S. C.

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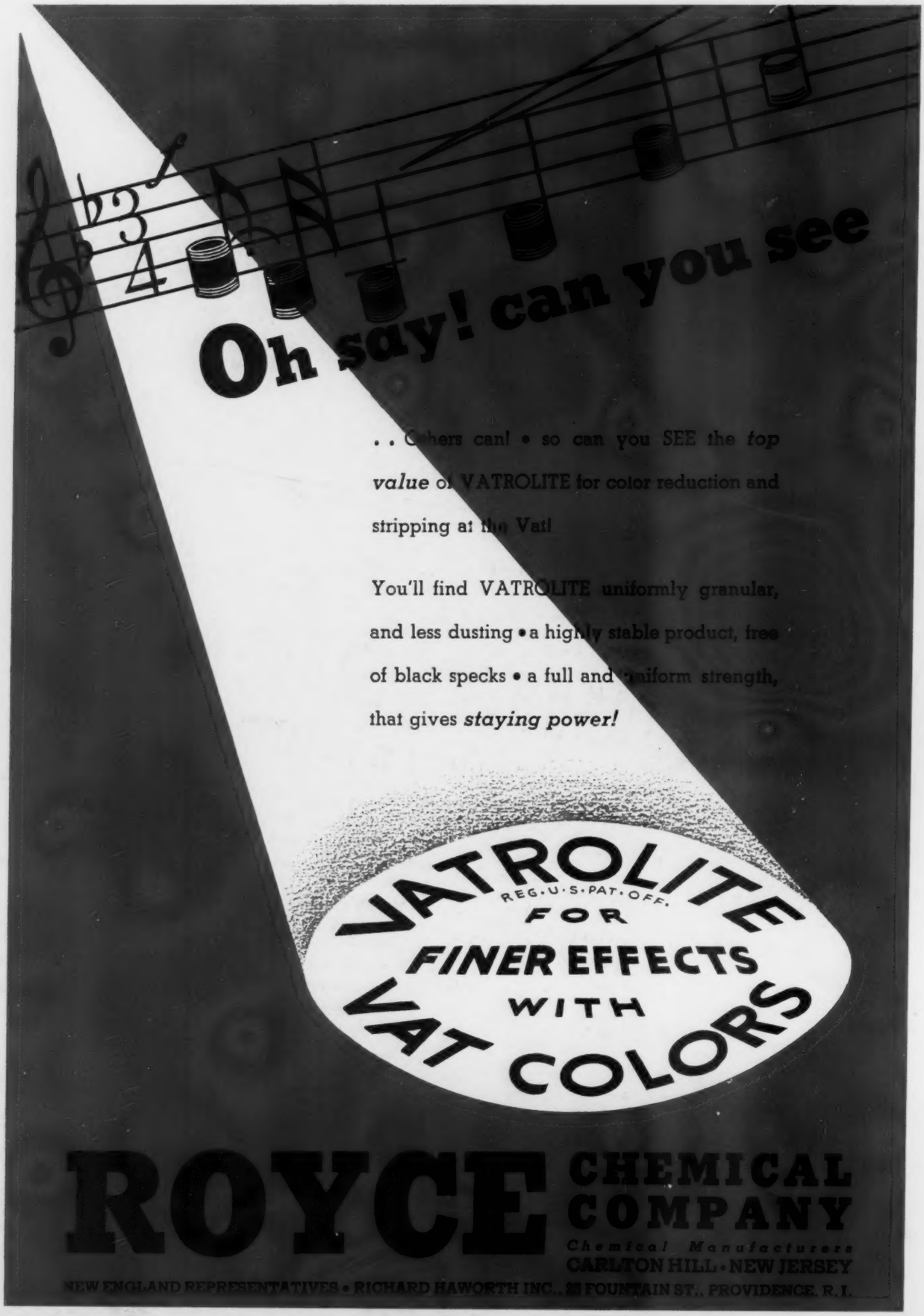
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